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## Business in Germany?

Landesbanken Sparkassen

# FINANCIAL TIMES

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CONTINENTAL SELLING PRICES: AUSTRIA Sch. 18; BELGIUM Fr. 30; DENMARK Kr. 8.00; FRANCE Fr. 4.50; GERMANY DM 2.0; ITALY L. 1000; NETHERLANDS Fl. 2.25; NORWAY Kr. 6.00; PORTUGAL Esc. 50; SPAIN Ptas. 75; SWEDEN Kr. 6.00; SWITZERLAND Fr. 2.0; IRE 42c; MALTA 25c

## NEWS SUMMARY

### GENERAL

## Solidarity in bid to avert clash

Poland's Solidarity trade union and the Government appear to be backing away from a threatened clash over workers' rights after the union offered a compromise on its right to choose factory managers.

Union leader Lech Walesa said Solidarity would build its own television transmitter if the authorities continued to restrict the union's access to the mass media. **Back Page**

### Official blamed

Tehran radio said a top security official caused the bomb explosion which killed Iran's president and prime minister last month. He also died in the blast.

### Bombs defused

Army bomb disposal team spent nine hours defusing ten mortar bombs aimed at a police station in Beesbrook in Co. Armagh.

### Napalm charge

Angolan newspapers accused South African forces of using napalm bombs in their assault on towns in the south of the country.

### Newsman banned

Egypt ordered the correspondent of the Paris paper Le Monde to leave the country in three days. He is the second foreign journalist to be expelled.

### Israeli threat

Israel may recall its ambassador to Austria after Chancellor Kreisky said Prime Minister Begin was a "primitive imperialist". Israeli offensive. **Page 2**

### Vodka price rise

Petrol will double in price and the cost of vodka will rise by a fifth in a package of charges to be announced by Moscow. **Page 2**

### Equal rights plea

The Equal Opportunities Commission said the planned industrial training reforms should include increased training opportunities for women. **Page 4**

### Police warning

Police journal editor said chief constables may soon envy the job security of soccer managers if left-wing critics toppled Merseyside chief constable Kenneth Oxford.

### Wayward missile

Milan newspaper said a missile that exploded at 30,000 ft near an Italian DC-9 jet liner in August was probably fired from a U.S. 6th fleet ship during exercises.

### Nato war games

Nato war games involving up to 300,000 troops begin today in Denmark, close to the Baltic region where Warsaw Pact exercises have just ended.

### Record for Rono

Henry Rono of Kenya broke his own world 5,000 metres record with a time of 13 minutes 52 seconds at an athletics meeting in Norway.

### Win for Renault

Frenchman Alain Prost, driving a Renault, won the Italian Grand Prix at Monza. World champion Alan Jones in a Williams finished second.

### Briefly...

Winning premium bond numbers are £100,000: 552 376079; £50,000: 5KK 281617 and £25,000: 7JW 382021.

Israeli police arrested several Arabs after grenade attack in Jerusalem which killed one and injured 28.

Soviet underground nuclear blast in Siberia was the strongest explosion this year.

### Angola: after the invasion

Banking: Scots rally to protect 'their bank' ... 13

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Management: Swedish packer is single-minded ... 8

### BUSINESS

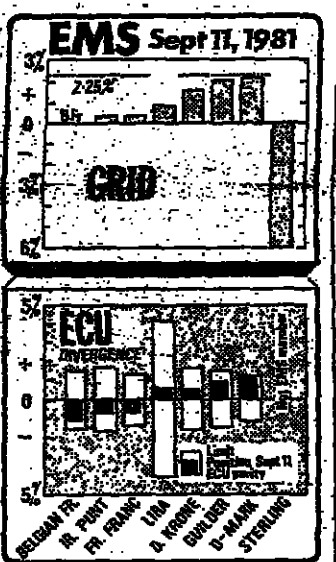
## Unions could have own bank

BANK run by major trade unions and the Co-op Bank may be launched within six months. **Back Page**

NEW ZEALAND is arranging a £100m sterling bankers' acceptance facility, the first time a foreign government has tapped this market in its own name. **Back Page**

SWEDISH reports suggest that the krona will be devalued today. **Back Page**

BELGIAN FRANC improved slightly but remained the weakest member of the European Monetary System last week. The D-mark was the strongest currency, followed by the very firm Dutch guilder and the little changed Italian lira. The Danish krone improved but stayed around the middle of the system, while the Irish punt and French franc were two of the three weakest members, with the Belgian franc, but showed a slightly firmer trend and appeared to be under no pressure. As a group the EMS gained ground against the dollar, reflecting the easing of U.S. interest rates.



The chart shows the two constraints on European Monetary System exchange rates. The upper grid, based on the weaker currencies, shows the cross rates from which no currency (except the lira) may move more than 2% per cent. The lower chart gives each currency's divergence from the "central rate" against the European Currency Unit (ECU), itself a basket of European currencies.

CZECHOSLOVAKIA'S economy is being hurt by a lag in deliveries from Poland. **Page 3**

MALAYSIAN International Shipping Corporation doubled pre-tax earnings in 1980 to 56m Ringgit (£13.14m). **Page 18**

TRANSCANADA PIPELINE is paying a record 171 per cent on a \$75m (£41.9m) U.S. dollar Eurobond issue maturing in 1988. **Page 15**

ARAB BANKS' UNION may launch an Arab travellers' cheque by March.

UK BANK lending in the personal sector is growing by more than 50 per cent a year. **Page 4**

PROFITS of the leading 140 quoted UK companies, measured on aggregate current-cost accounting, fell by 15-20 per cent in 1980 and earnings by 30 per cent. **Page 4**

SIXTEEN senior executives, including a director, have lost their jobs through the merger of the National Research Development Corporation and the National Enterprise Board into the British Technology Group. **Page 4**

GENERAL ACCIDENT Group is to cut its rates for many of the one million motorists insured with it, in some cases by more than a fifth. **Page 5**

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Justinian: Scarman: the police and the riots ... 10

Editorial comment: British politics in flux; India insert: Video

## Planned \$13bn drop in U.S. defence budget far less than expected

BY REGINALD DALE, U.S. EDITOR IN WASHINGTON

PRESIDENT Ronald Reagan has decided to trim \$13bn from the huge increases planned in U.S. defence spending in the next three years, far less than the \$20bn-\$30bn the White House had earlier said he was considering.

The decision, announced at the weekend, was seen as a big victory for Mr Caspar Weinberger, the Defence Secretary, who had argued strongly against any significant cut in the American arms build-up.

Mr David Stockman, the President's budget director, was reported to want to reduce defence spending by at least \$30bn over the fiscal years 1982-1984.

The defence cuts will be only part of a \$70bn-\$75bn reduction in overall budget spending in 1983 and 1984 that Mr Reagan is seeking to achieve his goal of balancing the Federal budget by 1984. Many analysts outside the Government, however, believe that even these cuts will not be big enough if Mr Reagan

is to hit his target. The cuts in military spending will involve a reduction of \$2bn in the \$222bn defence budget for 1982, followed by \$5bn in 1983 and \$6bn in 1984, the White House said. The cuts are not expected seriously to affect Mr Reagan's objective of restoring American strategic superiority over the Soviet Union by 1990.

The aim of an annual real 7 per cent increase in defence spending will still be comfortably achieved if President Carter's proposed 1981 budget is taken as a base after adjustment for inflation, officials said. But they were not ready to say if the 7 per cent rate would be achieved on the basis of the much higher 1982 budget.

Mr Weinberger and Mr Stockman have been arguing over which year should be used as the base for the cuts programme, with Mr Weinberger campaigning for the higher figure. Details of where the defence

cuts will fall have not yet been settled, but it is clear they will not affect any big new weapons programmes such as the MX mobile missile or the planned new strategic bomber.

The Pentagon said the \$13bn could probably be absorbed by: ● Extending plans to increase the armed forces by 100,000 troops over longer than the five years initially envisaged.

● Slowing down the stockpiling of ammunition in Europe and the Middle East.

● Retiring about five ships and cancelling 10 from the 140, the Navy wants to build in the next five years.

● Reducing purchases of the F-15 fighter for the next few years.

● Slowing the build-up of reserve forces. Officials said it no longer seemed likely that one of the army's 16 divisions would have to be disbanded, as the Pentagon had feared would happen if Mr Stockman had his way.

Haig speech, **Back Page**

## Oil companies cut stocks and risk prices pressure

BY RAY DAFTER, ENERGY EDITOR

MAJOR energy companies have begun deliberately reducing their winter stocks of oil because of high storage costs.

The policy will leave the industry with a substantially smaller safety margin against a supply crisis or abnormal seasonal demand and could renew pressure on crude oil prices.

Senior officials of the International Energy Agency are concerned that if the trend continues Saudi Arabia will find it more difficult to gain agreement within the Organisation of Petroleum Exporting Countries for a unified pricing system based on a moderate level of \$32 (£18) to \$34 a barrel.

Normally during the July-September period oil companies build up stocks at a worldwide rate of some 2m barrels a day in readiness for higher winter demand. But latest industry estimates suggest that instead the companies may be reducing stocks by 1m to 1.5m b/d.

The drawdown of stocks

partly accounts for the low demand for oil by Western consumers from the Opec countries and, as a result, for Opec's depressed production. In order to meet the higher demand for oil during the winter months companies will either have to increase their imports or draw more deeply on their stocks.

Industry estimates suggest that if Opec continues to produce oil at the present levels, companies will be forced to reduce stocks by between 3.5m and 4m b/d in the fourth quarter—almost double the rate of the normal seasonal stock draw.

Officials within the IEA and the industry emphasised at the weekend that there was no immediate danger of winter fuel shortages. Stocks are still well above the historic level of about 5bn barrels—the equivalent of 103 days' supply at the projected non-Communist world consumption rate over the coming October-December quarter.

But the agency, which represents the governments of virtually all developed countries, is becoming increasingly worried that the industry is reducing its stocks, which would leave it in a buffer against further unexpected supply interruptions.

Estimates within the agency's secretariat suggest that by the end of the year companies within members of the Organisation for Economic Co-operation and Development could be holding the equivalent of only 90 days of forward consumption compared with 110 days at the beginning of July.

Companies are confident that in the event of supply problems or an unexpected surge in demand they will be able to increase their imports from a number of Opec countries which are now anxious to raise their production levels.

Such a move would almost certainly harden the pricing attitude of the more hawkish members of Opec. However, Continued on **Back Page**

## IMF urges renewed restraint

BY DAVID MARSH

THE International Monetary Fund has appealed for industrialised countries to keep up the battle against inflation by maintaining policies of fiscal and monetary restraint.

In a recommendation aimed particularly at the U.S. the IMF in its annual report calls for more efforts to cut budget deficits and for greater international co-operation to help curb currency instability.

The report was published last night in Washington. It comes a fortnight before the world's Finance Ministers convene at the IMF and World Bank annual meeting in the U.S. capital for talks on finding ways out of the international recession.

The IMF report says exchange rate changes over the past year have been the largest since the early 1970s and are adding to many countries' economic problems.

In a tough warning to the developing countries, which borrow heavily from the world's

capital markets the Fund says interest rates are likely to remain higher than in the 1970s as the West sticks to anti-inflation policies.

Squeezed by high borrowing costs and weak markets for their exports, developing countries could soon face critical prospects if the real price of oil increased further and low growth in the West continued.

Increased aid efforts, especially for low-income developing nations, were vitally necessary, the IMF says.

The IMF urges governments to follow consistent fiscal policies to reduce undue reliance on monetary restrictions. This matches a series of calls this year from the Organisation for Economic Co-operation and Development and the Bank for International Settlements.

Action to cut budget deficits and to lower strains on credit markets "reduces the likelihood that monetary policy, through its impact on real in-

terest rates, will have seriously

disturbing effects on private investment and exchange rates."

Although the U.S. is not mentioned by name the prescription adds up to further international pressure on the Reagan Administration to lower the U.S. budget deficit.

Concern about soaring Treasury borrowing has been the main factor keeping interest rates high on Wall Street and forcing up the dollar on the foreign exchanges.

Taking issue with the Administration's policy of minimising intervention on the foreign exchanges the Fund says "intervention may at times play a useful role in limiting short-term movements in exchange rates."

The IMF says policies aimed at cutting the growth of nominal demand sharply could have an adverse impact on output and employment for a considerable period and thus prove politically difficult to maintain. Editorial Comment, **Page 12**

## Sizewell B plans 'accelerating'

BY DAVID FISHLOCK, SCIENCE EDITOR

THE NEW nuclear task force is expected to report greatly accelerated progress, on the Sizewell B nuclear power station in its first meeting with Mr David Howell, Energy Secretary, today.

Sizewell B is planned as the first of a series of British stations based on the Westinghouse pressurised water reactor. It will be the subject of a public inquiry next year.

A revised outline design for the station, believed to be much more easily constructed than the first design attempt which was submitted last April, will be sent to the Government's nuclear inspectors around the end of this month.

Mr Howell appointed the task force, under the chairmanship of Dr Walter Marshall, chairman of the UK Atomic Energy Authority, late in June, following urgent representations from nuclear industry leaders.

Dr Marshall's job was to cut through communications problems involving about ten major participants in the project. Long chains of communication, for example on safety-related matters, were seriously hampering engineering progress.

These problems had led to an unnecessarily complicated and costly outline design.

The purpose of the task force has been to create a focus for the many decisions involved in this £1bn project. By creating

such a focus "work goes quicker and people are happier," Dr Marshall commented last week.

No new estimates of cost for Sizewell B have yet been made by the National Nuclear Corporation, which is responsible for the design. But Dr Marshall has said that he would be "very disappointed" if it were not at least 30 per cent cheaper to build than a project based on a British-designed advanced gas-cooled reactor producing the same amount of power.

Sizewell B is being designed around a single reactor of 1,150 MW and two turbo generators, whereas the latest AGF stations use two 660 MW reactors and two turbo generators.

## Thatcher dilemma over Prior

BY RICHARD EVANS, LOBBY EDITOR

THE PRIME MINISTER faces a serious dilemma over the future of Mr James Prior, Employment Secretary, after warnings that he would resign from the Government if removed from his present post and offered a job outside the economic field.

Mrs Thatcher must now decide whether to keep Mr Prior in his present job or call his bluff by moving him and face the prospect of a highly damaging resignation from her administration.

Mr Prior, who favours a much more cautious approach to trade union reform than the Prime Minister, and has been critical of other aspects of economic policy, would be a dangerous foe for her on the back benches. He would be the focus for discontent among Tory MPs at the Government's lack of economic success.

But if the Prime Minister decides to leave him where he is, it will be against the wishes of many Right-wing Tory MPs, who want tougher measures against trade union power.

Following the warnings and veiled threats from Mr Prior, which will make him an even more controversial member of her Cabinet, leaving him where he is would also be a blow to Mrs Thatcher's authority and prestige. She would be accused of bowing to unreasonable pressures.

Mr Prior made his position known through friends after persistent reports that Mrs Thatcher intended to move him in the impending reshuffle, probably to the Northern Ireland Office in place of Mr Humphrey Atkins.

His position is that he is not refusing to be shifted, but that he would decline to serve in any office other than one of the big economic ministries. As there appears to be no prospect of a move by Sir Geoffrey Howe, Chancellor of the Exchequer, and Mrs Thatcher would never pick Mr Prior for that post—the choice is limited.

One obvious possible post would be the Department of Industry, but Sir Keith Joseph has no desire to move and is intensely loyal to Mrs Thatcher. The only other economic alternative is the Department of Energy, but this would probably be too junior a post for Mr Prior to accept.

Relations between Mrs Thatcher and Mr Prior have been strained since the Conservatives won office, partly because of personal temperament and partly because of policy differences over the union reform. Continued on **Back Page**

## Steel may tell voters to oppose defiant Liberals

BY RICHARD EVANS, LOBBY EDITOR

MR DAVID STEEL, the Liberal leader, said yesterday he would be prepared to advise electors to vote against a local Liberal candidate in the interests of the Social Democrat-Liberal Party alliance.

Mr Steel, adopting a tough line on the eve of his party's assembly at Llandudno, said on ITV that if an SDP candidate was thought more suitable to fight a General Election seat he would oppose a rival put up by a defiant local Liberal party.

His comments will not be welcomed by many Liberal party activists anxious to avoid being swamped by the SDP. They set the scene for this week's conference, the first of this year's conferences, the season that could see developments of the greatest significance in British politics.

Mr Steel's remarks were made on London Weekend's Weekend World programme. They will be warmly welcomed by SDP leaders. Conflicts over the division of winnable seats between the two parties represents one of the major dangers facing the alliance.

SDP leaders have advocated that at least half the winnable seats in the country should in fairness go to their candidates in the alliance but the criteria for deciding which ones has yet to be laid down.

Many local Liberal associations have already picked their candidates and in some areas

these could be difficult to dislodge.

A record 1,700 delegates at Llandudno are expected to support the leadership's plans for developing the alliance, in spite of opposition from many activists.

Two weekend developments were the overwhelming support given by Scottish Liberals to an alliance, and publication by the SDP of eight discussion documents on policy which showed no obvious differences between the two parties on major issues.

The Scottish Party's special conference in Glasgow not only agreed to change its constitution to permit an alliance but went beyond Mr Steel's request and voted for an alliance in all elections, local and national.

The SDP discussion papers will be debated at the party's first conference next month. This will be divided between Perth, Bradford and London. No votes or decisions, however, will be taken at this stage.

Mr Steel said in his Weekend World interview that the decisions on which candidates should be selected by the alliance would have to be taken locally rather than nationally. He estimated that in two-thirds of constituencies negotiations would go smoothly.

In a minority of cases where conflict was impossible to resolve locally there would have to be arbitration. Editorial comment, **Page 12**

## Shore says Benn victory would weaken leadership

BY RICHARD EVANS, LOBBY EDITOR

MR PETER SHORE, Shadow Chancellor of the Exchequer, warned members of the Labour Party yesterday that the effectiveness of the party's MPs, the Shadow Cabinet and Mr Michael Foot as leader would "suffer immeasurably" should Mr Tony Benn be elected deputy leader.

The tone of Mr Shore's remarks shows the increasing urgency of the campaign by party moderates to prevent the defeat of Mr Denis Healey in the contest to be decided on the eve of the party conference in Brighton in two weeks.

According to Mr Shore, who was speaking in Glasgow, a victory for Mr Benn would be an open rebuff for Mr Foot, and would impose on the great majority of MPs "a deputy leader for whom only a tiny minority would freely vote."

Despite his undoubted gifts, Mr Benn simply did not persuade a large section of Labour voters, let alone the 2m to 3m waverers

the party would need to capture to win the next election.

The outcome of the contest between Mr Healey, Mr Benn and Mr John Silkin is impossible to predict with any certainty, because the Transport and General Workers Union, the largest union affiliated to the party, will not reach its decision until shortly before the vote.

On the assumption that Mr Silkin drops out and the TGWU votes in the second round for Mr Benn, he could just win. Hence the rising tide of warnings from the moderates on the consequences of a Benn victory.

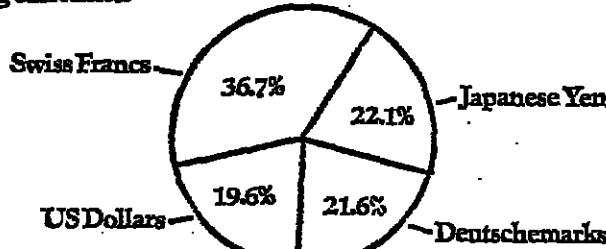
Mr Shore stressed that the damage of a Benn win would be "very great." But in his view a greater folly would be the exodus from the party of those who had fought against Mr Benn. Desertions would simply increase the prospect Continued on **Back Page**

## Vanbrugh Currency Fund Limited

### DIRECTORS' ANNOUNCEMENT 8/9/81

The Directors are pleased to announce that the offer price of the participating shares originally issued on 12th May 1981 has risen by over 13.85% at the latest dealing date, 8th September 1981. The portfolio of bank deposits has been actively traded.

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OVERSEAS NEWS

# West German industrial output 'to rise in 1982'

BY JONATHAN CARR IN BONN

WEST GERMAN industrialists expect a marked increase in sales and production next year, but there will be a further fall in the number of people they employ.

This emerges from the latest survey of industrialists' plans made by the IFO Institute of Economic Research on the basis of a questionnaire sent out in July and published today.

The results broadly confirm the view of economists that an overall economic upturn cannot be expected until 1982—but that then it will be quite strong, buoyed by export demand.

According to IFO, industrialists expect domestic sales to rise 6 per cent next year—double this year's rate—and foreign sales to increase by 9 per cent, compared with 8 per cent this year.

The strongest growth is likely to be in the capital goods sector, with a rise of 7 per cent in domestic turnover and 11 per cent in foreign turnover.

Industrial production overall is likely to rise by 2.2 per cent after a drop of 2.6 per cent this year. Fixed asset investments will be up by only 1 per cent after 3 per cent this year, partly reflecting a cyclical downturn and partly the expectation of continued high interest rates.

The IFO survey shows that industrialists expect to cut their labour force by 0.7 per cent on average next year, or about 50,000 employees. This follows an expected reduction this year of about 110,000 and shows that even fairly strong economic growth is no longer enough to prevent a cut in jobs.

# Wage increases planned for Soviet coal miners

BY OUR MOSCOW CORRESPONDENT

THE SOVIET Government yesterday announced higher pay for coal miners in the current five-year plan (1981-85), according to Pravda, the Communist Party newspaper.

A salary increase of 27 per cent has been agreed for miners working underground, 23 to 24 per cent for those in open-cast mines and 18 to 20 per cent for other coal industry workers.

Miners at several pits in the Donetsk Basin in the Ukraine and the new open-cast fields at Ekibastuz complex in Kazakhstan, which have been criticised by Mr Boris Bratchenko, Coal Minister, for sluggishness in fulfilling the plan and had working conditions, will receive their salary increases early next year. Miners in the rest of the industry will receive their rises by 1983.

"The rises should increase productivity," Pravda says, indicating that the leadership is worried about the problems in the industry.

There have been frequent references in the Soviet Press to the difficulties encountered in recruiting coal industry personnel. This is despite the fact that miners are the highest paid workers and enjoy numerous privileges and benefits.

Average monthly earnings of miners are about 350-370 (224-225), more than twice the national average for industrial and white collar workers. A miner works a 36-hour week, or 30 hours in mines with conditions are particularly arduous.

Associated Press adds: Shoppers crowded Moscow stores and petrol stations at the weekend after rumours of steep price rises.

The Government sets prices on all goods sold legally, except in farmers' markets. Although the authorities claim the prices of consumer goods are periodically increased. The most recent rises were in June 1979 and March 1978.

# Yugoslav deficit warning

ZAGREB — Moves to improve Yugoslavia's balance of payments have been insufficient and more efforts are needed until the end of the year, according to Mr Veselin Djuranovic, Prime Minister.

Speaking at the opening of the country's biggest international fair in Zagreb, Mr Djuranovic recalled government plans to reduce the balance of payments deficit from \$2.3bn (£1.2bn) last year to \$1.8bn this year.

However, in the first six months of 1981, the deficit totalled \$3.5bn—almost the level of the record balance of payments deficit of \$3.7bn

Yugoslavia reported for 1979. Mr Djuranovic said while industrial growth was high over the past few months, this also resulted in increased imports of semi-finished products and raw materials without accomplishing a planned rise in exports.

The Premier said it was indispensable to step up efforts in coming months towards achieving the planned balance of payments deficit. He did not elaborate. Yugoslavia's foreign debts are said to total \$17bn.

Mr Djuranovic listed as a positive fact a slowly-declining inflation rate.

# Springboks leave a shaken New Zealand

BY DAI HAYWARD IN WELLINGTON

THE South African Springbok rugby team flew out of New Zealand last night—defeated at losing the international series and leaving behind a country bewildered and shaken by the unprecedented protests.

Their tour ended in a credible scene of bloodshed and violence in Auckland on Saturday. With a light aircraft buzzing the field from the level of the grandstand roof and diving-bombing the players with flour-bombs, smoke-bombs and pamphlets. It was one of the most bizarre rugby tests ever.

The Cessna aircraft, stolen early in the day, made 58 separate low swoops over the ground dropping more than 60 missiles. One flour-bomb struck All Black prop Gary Knight on the head, knocking him unconscious.

Outside the ground there were the most violent scenes in modern day New Zealand.

Protesters launched an all-out assault on police lines. Police had to make several baton charges and scores of people were injured. Of the 43 admitted to hospital, 19 were policemen.

For the first time in New Zealand's history petrol bombs were thrown at the police.

Before the Springboks even left last night the national inquest into the financial and social consequences of the tour had begun. The Government's original estimate and allocation of NZ\$2.7m (£1.2m) to provide a police screen for the Springboks was exceeded many times over.

It is suggested that even without the wages of police and army personnel the cost conservatively could exceed NZ\$15m.

Even more serious is the creation of divisions in the country, as evidenced in New Zealand society. Even within families there is bitter dissent as opinions over the tour have become polarised.

Respect for the police has certainly been weakened and it may never be restored to its former level.

Rugby will probably be the main casualty. Many long-time rugby enthusiasts, including officials at national and club level, have severed their connection with the sport because they objected so strongly to the presence of the South Africans in New Zealand.

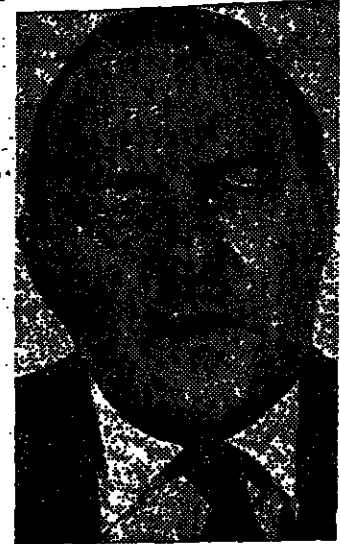
What effect the tour—and more precisely the determination of Mr Robert Muldoon, the Prime Minister, to allow it to proceed—will have on the general election in November is still too early to evaluate.

Staunch National Party supporters believe that Mr Muldoon's stand will gain him vital votes, especially in five semi-rural marginal electorates, from rugby supporters who will support the Government's attitudes. Labour voters, on the other hand, are equally convinced that thousands of people are so opposed to the tour there will be an overwhelming vote for Labour.

Black African countries have threatened to try to isolate New Zealand sportsmen because of the tour. There have also been reported attempts to dislocate Middle Eastern trade ties with Wellington.

In Los Angeles, where the team is due to play on route back to South Africa, there are fears that the Springbok presence could jeopardise Third World attendance at the 1984 Olympic Games.

In South Africa yesterday, the leading pro-Government newspaper, Rapport, suggested the side should not play in the U.S.



Mr Robert Muldoon: determined stand

# Netherlands union body faces deficit

By Charles Gatchelor in Amsterdam

THE Netherlands' largest trade union federation, the ILM-strong FNV, faces financial crisis and may have to lay off many of its 500 staff.

The threat of impending redundancies has led to a strong reaction from the union representing the federation's employees and claims that the federation had not involved the union in discussions of the problems. The staff have offered to take a cut in salary if this will help to save their jobs.

The FNV, which groups 23 mainly Catholic and Socialist unions, faces a deficit for the first time of F 2.6m (£400,000) on its 1981 budget. The loss could be several times higher in 1982, according to Mr Aad de Vries, the federation's treasurer, without large cuts in the wage bill the prospects were gloomy, he said. But the federation hoped it would not be forced to sack people.

Record unemployment levels in the Netherlands—at present 407,000 people are out of work or nearly 10 per cent of the total workforce—has led to a decline in union membership. The FNV has lost 35,000 members in the past 18 months.

The economic recession and two years of government-imposed wage restraint have meant affiliated unions have not been able to raise members' contributions.

Income from subscriptions and other sources is down nearly 4 per cent from the 1978 level, while spending has increased by nearly F 5m. The federation has strike funds invested, but these can only be used by statute to finance industrial action and must anyway be kept in reserve.

One reason for the high salary costs of the FNV—two-thirds of all spending goes in wages—is that the merger of two previously independent Catholic and Socialist federations, begun in 1974, is not yet complete. The FNV still has

# PLO expects Israeli offensive

BY OUR BEIRUT CORRESPONDENT

THE Palestine Liberation Organisation has moved an armoured battalion into southern Lebanon to reinforce its strongholds in anticipation of an Israeli offensive, the PLO said yesterday.

Beirut newspapers reported that the unit left Beirut on Thursday for an undisclosed location in south Lebanon, where an unofficial ceasefire between Israel and the PLO has been holding since July 24. PLO officials said a battalion that included long-range artillery units has also moved south in recent weeks.

Meanwhile the Saudi Arabian ambassador in Beirut, in an interview for publication today, has given some details of Saudi involvement in keeping the peace in Lebanon over the past few months.

Saudi Arabia is trying to consolidate a lasting truce in south Lebanon, the ambassador, Ali Shaer, said. The Saudi kingdom "in co-operation and consultation with its Arab brethren, is currently exerting intense efforts with a view to achieving a lasting peace in the south Lebanese region, so that the issue can be settled on a wider, more comprehensive scale."

This was being done through the continuous efforts and constant contacts undertaken by Prince Saud, the Foreign Minister.

The envoy's remarks follow statements by Mr Alexander Haig, the U.S. Secretary of State, last week that the U.S. was eager to consolidate a shaky ceasefire in south Lebanon following Israeli-Palestinian fighting there in July.

Mr Haig met Saudi Arabia's Crown Prince Fahd in Malaga, Spain, on Saturday and according to the official Saudi press agency, the Palestinian question and Lebanon were at the top of their agenda.

Saudi Arabia was instrumental in arranging the July ceasefire after a fortnight of Israeli air, sea and ground attacks and Palestinian reprisals against northern Israeli settlements across the south Lebanese border.

In Beirut yesterday, the main Museum crossing point, providing passage between mainly Moslem and predominantly Christian east Beirut, was closed to civilian traffic with bulldozers and internal security force patrols. The link was blocked off in April when fighting broke out between Syrian forces and Christian Lebanese militiamen.

Reginald Dale adds from Washington: Mr Haig assured Crown Prince Fahd of Saudi Arabia at the weekend that the Reagan Administration was confident of winning congressional approval for the \$5.5m-worth of military aircraft and equipment which the Saudis wish to buy from the U.S. The deal, which has been opposed by Israel and its supporters on Capitol Hill, would include five sophisticated advanced warning and control aircraft (AWACS).

# Closer Israel-Egypt links sought

BY DAVID LENNON IN TEL AVIV

A TEAM of Egyptian civil servants arrived in Israel yesterday for talks on improving the transport and communication links between the two countries. The visit does not appear to have been affected by the simmering row between Cairo and Jerusalem over reported remarks by the Israeli Chief of Staff which Cairo considered offensive.

General Rafael Eitan, the Chief of Staff, was reported last week to have warned that troubles in Egypt could lead to the downfall of President Anwar Sadat and the collapse of the peace agreement.

The head of the 45-man Egyptian delegation, Mr Taha Shash, deputy director-general of the Foreign Ministry, said on arrival that Egypt was "still waiting explanation from the Israeli Government" about the reported statement. In the meantime his team would hold four days of talks on ways of expanding the links between the two countries.

Gen. Eitan's office issued a denial over the weekend that he had made the remark as reported in the Maariv newspaper but in an editorial yesterday the paper stood by its report. It called on the General to be man enough to admit that he had made a mistake.

According to reports from Egypt, Cairo has postponed a planned visit by the Israeli Chief of Staff later this month and cancelled a visit by senior Egyptian army officers to Israel. Israel denies any such visits had been arranged.

Anthony McDermott in Cairo writes: The Egyptian Government yesterday expelled a second Western journalist in four days for what it called distorted reporting. M Jean-Pierre Peroncel-Hugot of Le Monde was given three days to leave the country.

He follows Mr Christopher Harper of the American ABC network and the move reinforces the impression that President Sadat is angry at foreign reaction and reporting of his crack-down on Moslem and Coptic extremists and political adversaries. In the last fortnight over 1,600 people have been arrested.

In an editorial yesterday the semi-official daily Al-Ahram bitterly attacked Mr Mohammed Heykal, its former editor who is among those recently arrested. Al-Ahram said Mr Heykal had chosen to align himself with Egypt's "spiteful enemies."

# Investment warning for Canada

By Victor Mackie in Ottawa

BRITISH investors have been discouraged by the Canadian Government because its energy and foreign investment programmes are highly restrictive, Britain's new High Commissioner to Ottawa, Lord Moran, said at the weekend.

In his first public speech in Canada, Lord Moran said the National Energy Programme and the Foreign Investment Review Agency had left some British investors wondering how welcome they were.

"Many British firms would like to invest in Canada, but many people I met in London told me that with NEP and FIRA the Canadian climate seemed to them to be unwelcome to foreign investment," the envoy told the Men's Canadian Club in Ottawa.

The energy policy is designed to increase Canadian ownership of oil companies, while FIRA assesses whether new foreign investments are acceptable in Canada.

Although most British applications to FIRA have been approved, Lord Moran said, some important ones had been refused.

OSLO — General elections began in Norway yesterday with political analysts predicting defeat for the country's first woman Prime Minister, Dr Gro Harlem Brundtland, and her Labour Party.

Although polling began yesterday in some towns most Norwegians will be voting today.

The latest opinion polls showed a heavy swing away from Labour, which has ruled Norway for much of this century, to the opposition Conservative Party led by Mr Kaare Willoch.

Analysts said that Labour, which is already a minority Government, might remain in power but that Mr Willoch would probably be able to form it next Government in coalition with the Centre (Agrarian) and Christian People's parties.

Economic issues have dominated the campaign and Mr Willoch, an economist, has promised to cut taxes and cut bureaucracy.

Labour is expected to win just over 35 per cent of the vote compared with 42.3 per cent at the last general elections four years ago.

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# THE IMF ANNUAL REPORT

David Marsh considers the IMF's sombre assessment of the problems facing the developing and industrialised countries

# A 'difficult and disappointing' world economic picture

WORLD INTEREST rates are likely to remain high as governments battle to bring down inflation by reining back monetary growth after a period of "generally inadequate" fiscal restraint, the International Monetary Fund warns in its annual report published yesterday.

The IMF describes the world economic picture as "difficult and disappointing in important respects," with large capital movements and sharp exchange rate changes adding to difficulties of economic and financial management in most countries.

In particular, the prospects for developing countries with no oil reserves could soon become critical if the real price of oil increases further and growth in the industrialised world continues at a low rate, the IMF says.

In a sombre assessment of the problems facing developing nations, it says that under these conditions many middle- and low-income countries might suffer outright declines in per capita real incomes.

Even those countries which had made best efforts to adjust their current account deficits could suffer.

The present high level of real interest rates is creating a drain on the international purchasing power of most net debtor countries. This is particularly hitting non-oil developing nations at a time when these countries are already under pressure because of deterioration in their terms of trade, weak export markets, and

relatively slow growth in flows of aid.

The debt position of the low-income countries and the middle-income nations exporting mainly primary products was still manageable at the end of 1980 mainly because of large negative real interest rates on their borrowing during previous years.

In view of the imperative need for the industrial countries to control inflation, however, it seems likely that real interest rates will remain above the abnormally low or negative levels of the 1970s. This underscores the need for "prudent adjustment measures" in many of the borrowing countries.

The IMF says structural changes and exchange rate changes, accompanied by supportive demand management policies, have a crucial role to play.

The IMF says the magnitude and rapid shifting of external imbalances on current account have contributed to recent exchange rate movements, which have been larger than anything witnessed since the currency realignments of the early 1970s.

It says that the large real changes in exchange rates between the U.S. and the members of the European Monetary System over the past 18 months have not been caused solely by divergences in monetary policies. Attempts to moderate these changes should not be limited to the reduction of divergences.

"The main problem during

that period was that the pressures on exchange rates arising from restrictive monetary policy in the U.S. were added, for the EMS countries, to the pressures that resulted from their large current account deficits."

Exchange market intervention by central banks "may at times play a useful role in limiting short-term movements in exchange rates." But when interest rate movements are as large as they have been in the U.S., "it may not be possible to avoid exchange rate adjustments."

The Fund says "there are sound theoretical and practical reasons to anticipate a substantial decline in nominal interest rates when inflationary expectations subside."

Exchange rate changes have

impaired efforts to move out of the international recession. "Upward pressures on prices and wages have been intensified in countries with sharply depreciating currencies. . . . Producers in some of the countries with markedly appreciating currencies have found their international competitive positions impaired."

Countries have faced the dilemma of whether to tailor monetary policies to domestic or external objectives.

"Not infrequently, monetary policies deemed appropriate for domestic purposes have contributed to conditions in financial markets that were not conducive to short-term external equilibrium and orderly exchange markets," the Fund reports. "By the same token, monetary policies designed to give substantial weight to external objectives have sometimes threatened to produce unwanted domestic consequences."

Among the more encouraging aspects of the international economic position are signs that the inflationary surge of 1979 and 1980 has abated, giving an opportunity for its reversal.

Monetary expansion in the major countries has been considerably constrained. It might be brought under lasting control if policies of restraint are not relaxed prematurely and are accompanied by appropriate fiscal policies.

Most governments in the larger countries are making "strenuous efforts" to tighten their fiscal policies.

Making allowance for the state of demand and capacity utilisation, central government deficits in 10 major countries covered by an IMF survey are expected to have net contractionary effects in 1981 ranging from the equivalent of 0.5 per cent to 2.5 per cent of gross national product, and averaging 1 per cent.

The restrictive shift in fiscal policies stems partly from concern over the financial implications of existing deficits, which are large by historical standards in nearly all countries. It also reflects widespread disillusion over the results, in terms of growth and employment, of the large imbalances of the second half of the 1970s.

# Praise for recycling of oil exporters' cash surpluses

THE IMF says that the smooth recycling of the large cash surplus of the oil exporting countries over the past two years has been a "reassuring" factor on the world economic scene.

Most of this recycling has been carried out through private market channels. "Many borrowing countries despite the rise in real costs of credit, have gained valuable time for adaptation and adjustment through the continuation on a large scale of international lending by private financial institutions."

Referring to its own expanded activities, the Fund says it now has in place and in prospect "arrangements

that permit further enlargement of its role."

During 1980, new loan commitments and other use of Fund resources reached a total SDR 9.5bn, two to three times the level of previous years. The corresponding total for the first half of 1981 is even larger at nearly SDR 10bn.

The economic programmes underlying these figures "offer solid grounds for hope that orderly adjustment towards viable external positions for the longer run will be widely carried out."

The current account deficit of industrial countries is expected to fall this year to \$25bn from \$44bn in 1980, while the surplus of the oil

exporters will drop to \$96bn from \$112bn last year, the Fund forecasts. All figures exclude official transfers.

But the combined current account deficit of non-oil developing countries is projected at \$97bn this year, up from \$82bn in 1980.

The large and sudden shifts in current account balances since 1978 have required equally sharp alteration of global flows of capital and reserves.

The non-oil developing countries greatly expanded their external borrowing in 1980 and also virtually ceased their earlier accumulation of reserves. Most industrial countries shifted last year from net lending (and/or

reserve accumulation) in international markets to net borrowing.

In a number of respects, the international banking system was better prepared in 1979-80 to continue the international financial intermediation process than in 1974-75. The aggregate current account deficit of the non-oil developing countries in 1980 was considerably smaller than in 1974, relative to the overall scale of international banking flows.

Major banks had also improved their standards for managing international assets and liabilities and supervisory and regulatory authorities have been paying closer attention to prudential aspects of international banking.

The ratio of long-term external debt of non-oil developing countries to their exports declined from 1979 to 1980, and is now the lowest for any time since 1974.

The ratio of this debt to gross domestic product has remained roughly constant at between 20 and 25 per cent, which is still, however, well above the ratio observed in 1973-74.

The indebtedness position of these countries, however, has been worsened by recent changes in the maturity composition from long-term to short-term debt, which is less fully covered in reported data.

# Accelerated growth of reserves

THE GROWTH of total reserves excluding gold accelerated to 19 per cent last year compared with growth rates of 11 per cent in 1979 and 8 per cent in 1978, the IMF says.

Reserve diversification continued last year with official holdings of dollars increasing by SDR 11bn but the principal non-dollar currencies held in official reserves—D-Marks, Swiss francs, yen, sterling, French francs and Dutch guilders—increasing by SDR 19bn.

Making allowance for the holdings of European Currency Units issued against dollars among EEC countries, the share of the dollar in total foreign exchange reserves identified by currency fell to 73 per cent at the end of 1980 from 79 per cent at the end of 1979.

The share of the D-Mark in total reserves at the end of 1980 was 14 per cent (end-1979, 11.3 per cent). Swiss franc 4.1 per cent (3.2 per cent), yen 3.7 per cent (2.8 per cent), and sterling 3 per cent (2 per cent).

Identified reserve holdings on the Euromarkets totalled SDR 73.6bn at the end of 1980, up from SDR 64.9bn in 1979, of which SDR 53.3bn was in dollars and SDR 20.3bn in other currencies.

In a section dealing with the adequacy of world reserves, the Fund says the ratio of non-gold reserves to imports for all countries combined fell from 25 per cent in 1973 to 20 per cent in 1980.

The ratio for major industrial countries dropped to 16 per cent from 23 per cent, while the ratio for oil exporters increased from 59 per cent to 63 per cent. This calculation, however, ignores the effect of the rise in the gold price on countries' reserves.

In May this year the market value of gold reserves was 169 per cent of that of non-gold reserves for industrial countries, 67 per cent for non-oil developing countries and 20 per cent for the oil exporters.

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## Czechs begin to feel impact of fall in exports from Poland

By PAUL LEVY in VIENNA

CZECHOSLOVAKIA'S economy is being hurt by a fall in deliveries from Poland, the country's third largest trading partner after the Soviet Union and East Germany.

This was indicated at the Press conference last week by Mr. Frantisek Mares, First Deputy Foreign Trade Minister, at the International Engineering Trade Fair at Brno. He said that Czechoslovakia's active participation in the international division of labour, above all in the Socialist economic integration, was one of the most important conditions for the development of its economy in the 1980s.

Though the minister did not go into details, economic reports reveal that Poland's share in Czechoslovak foreign trade has dropped from 8.1 per cent in 1979 to 7.6 per cent in 1980. Two-way trade this year could remain well below the figures for 1977. This means that even under optimum conditions the trade could reach only about 1.37bn (£827m) as against 1.5bn in 1977, to 1.5bn in 1978 and 1.45bn in 1979. Last year turnover slightly exceeded 1.5bn.

Czechoslovakia is an important buyer of Polish coal and sulphur. It extended large credits in 1957, 1962 and 1965 to the tune of 400m in all for the construction of installations for mining copper, sulphur and coal.

In turn, Poland signed delivery commitments for a period of 15-25 years. Specialisation agreements account for 28 per cent of the total trade between the two countries. Czechoslovakia exports, magnesite, kaolin, castings, newsprint, glass as well as a wide range of machinery and equipment to Poland.

Romania has signed a \$120m loan agreement with the U.S. Export-Import Bank to help purchase two turbo-generators for its Canadian-built nuclear power plants. Reuter reports from Vienna. The loan, for 18 years with an eight-year grace period, was signed by the Romanian Bank for Foreign Trade and Romanagro, the trade and foreign trade enterprise, in Washington, it said, but gave no details. The generators, to be manufactured by General Electric and Finmeccanica and Ansaldo SPA of Italy, will cost about \$150m.

## India's Jaguar project moves ahead

By K. K. Sharma in New Delhi

THE ASSEMBLY of Jaguar aircraft at the Bangalore factory of Hindustan Aeronautics has started under terms of the 51st deal with British Aerospace. Mr. Shivraj Patil, the Minister of State for Defence, told Parliament last week.

This means that the Indian Government is carrying out the second part of the agreement with British Aerospace under which 40 aircraft were to be imported in the first phase and another 45 assembled at Bangalore after being imported in knocked down kit form.

Mr. Patil said this was being done as part of the "binding part" of the agreement with British Aerospace, but he would not give details of the Indian Government's position on the controversial final phase of the agreement under which the Jaguar was to be completely manufactured in India.

The Government is known to have decided in principle to scrap the final phase of the agreement so that it will be in a position to buy and manufacture other aircraft it considers superior. A firm decision to prematurely terminate the Jaguar project has not, however, been taken, and British Aerospace still considers it has a full contract commitment to India.

The main aircraft being considered is the French Mirage 2000, built by Dassault. It is a supersonic fighter on which 150 such aircraft are now in an advanced stage. A mission is to visit France shortly for final talks.

The Defence Ministry has recommended that the Mirage 2000 be acquired to meet the threat from the U.S. F-16s to be supplied to Pakistan under a recent \$300m deal with Pakistan.

## BRITAIN'S LEADING EXPORTERS:

# Sales jump to £2.3bn keeps BP on top

By PAUL CHEESBRIGHT

BRITISH PETROLEUM remained the UK's largest exporter last year as higher prices and a bigger volume of North Sea oil deliveries lifted export revenue 1.7 times over 1979 to £2.3bn.

The same factors moved Shell to seventh from eighth position, but Esso Petroleum climbed to eighth from twelfth position. The two companies set together in the North Sea and Esso's advance suggests that last year it was putting a greater volume of North Sea oil on to world markets than in 1979.

In the top five, the only change has been the switching of places between BL and Ford. Both have been hurt by the strength of sterling and the recession. Although BL gained one place, it ran its export business at a loss. Ford's sharp fall in export revenue, as vehicle exports dropped from 239,000 to 166,000, was cushioned by component sales.

GEC held its position of fifth, while Rolls-Royce climbed to tenth from fourteenth and British Aerospace gained one place to sixth. All three have in common sales of high technology defence equipment as a buffer against the recession.

But GEC's generally strong performance since the period covered by the table suggests that in next year's list it will move up at the expense of the motor companies.

Further down the list, changes in position have been helped by mergers. Royal advanced to 32 from 51 in 1979, having absorbed Decca which had been 94 in 1979. Similarly with Rolls-Royce Motors consolidated and hence leaving the list. Vickers climbed 30 places to 41. But Thorn, with four months of EMI — 95th in 1979 — included in its figures, slipped one place to 37.

The export figures used in the table relate to financial years which finished during 1980, unless otherwise indicated. They are for direct exports from the UK and have been extracted from annual reports or obtained from companies directly.

So the figures cover a troubled period, as exporters contended with rising costs at home as currency disadvantages and sluggish markets abroad made selling difficult.

If inflation is stripped out of the formal direct export figures, the growth in revenue, where it occurred, would be less impressive. Significantly, the figure needed to climb into the list for 1980 — £54m for Sears — was only £400,000 more than the £53.6m earned from exports in 1979 by Lomrho, then in 100th place.

The table does not indicate any radical change in the nature of British exports.

But the table emphasises the concentration of exports among a relatively few companies. Earlier this year, the Department of Trade calculated that in 1979, 94 companies accounted for half of UK exports, excluding diamonds.

In calendar 1980, total UK visible exports were £47.4bn. The top five exporters on the list earned from direct sales abroad nearly 13 per cent of such a figure.

The matching up is not exact because not all the company figures coincide with the calendar year, but the concentration is, apparent. The top 10 exporters had direct sales abroad equivalent to 18.9 per cent of the 1980 national export figure.

There are 59 companies on the list with direct exports of £100m and over. And it seems likely that the concentration will continue despite official efforts to draw more companies into the exporting net. Only the fittest are surviving as the sharp internal squeeze forces plant closures.

As stated in previous years, it is almost impossible in lists of this kind to avoid some errors or omissions. It is hoped they will be brought to our attention by the companies concerned.

## THE TOP HUNDRED EXPORTERS—1980

(Previous year's ranking in brackets)

	1980	1979		1980	1979		1980	1979
	£m	£m		£m	£m		£m	£m
1 (1) Brit. Petroleum	2,289	1,326	36 (49) Kodak	160.9	108	71 (56) Gulf Oil	77.3	89.4
2 (2) ICI	1,173	1,108	37 (36) Thorn	151.8*	128.1	72 (43) Acrow	77.1	87.2
3 (4) BL	880	845	38 (31) Dunlop	149	135	73 (70) BOC Intl.	76	76.4
4 (3) Ford	852	1,010	39 (54) Michelin	148	132.4	74 (90) Assoc. Engineering	76	62
5 (5) GEC	805	751	40 (23) Babcock Intl.	146.5	150.6	75 (59) Stone-Platt	74.7	88.3
6 (7) Brit. Aerospace	789	558	41 (71) Vickers	142.1*	102.3	76 (86) Coats Patons	71.7	63.4
7 (8) Shell	787	561	42 (42) IMI	139.1	117.2	77 (67) Du Pont	71.4	77.9
8 (12) Esso Petroleum	650.4	374	43 (35) Glaxo	131.6	133	78 (75) Metal Box	71	69.5
9 (6) British Steel	650	689	44 (44) Eng. China Clays	130.2	114.1	79 (89) Molins	70.5	62
10 (14) Rolls-Royce	554	348	45 (60) Burmah	128.2	88.1	80 (91) Pilkington	72.3	61.2
11 (10) Courtauld	493	414	46 (43) Cummins Engine	127.6	114	81 (66) Monsanto	70	80.5
12 (11) Unilever	454.8	392	47 (47) Northm. Eng.	127	112	82 (84) J. C. Bamford	69.1	64.8
13 (9) IBM	452	431	48 (88) Dowty	127.9	62.1	83 (100) Lonrho	67.5	53.6
14 (13) Massey-Ferguson	428.3	351	49 (38) Intl. Harvester	124.3	122	84 (74) Imperial Group	66.9	66.2
15 (16) Distillers	386.7	332	50 (61) S. Pearson	123.6	87.4	85 (87) Rowntree Mack'tosh	66	63
16 (15) Conoco	343	342	51 (39) Simon Eng.	112.7	127.8	86 (81) Borg-Warner	65.5	66.4
17 (17) Hawker Siddeley	289	314	52 (45) Turner & Newall	112	114	87 (—) Shorts	65.1**	45
18 (20) Johnson Matthey	251.1	174	53 (48) ICL	111.2	111.5	88 (80) Allied Breweries	65.1**	68
19 (24) Brit. Shipbuilders	251	201	54 (40) John Brown	118.2	118.1	89 (76) Blue Circle	64.5	69.4
20 (27) BICC	243.5	189.8	55 (53) Wellcome Found.	107	96	90 (92) BTR	62.7	55.6
21 (18) Tube Investments	235	239.9	56 (41) Rio Tinto-Zinc	105.3	117.7	91 (—) UDS	61.3	47.3
22 (23) Vauxhall	234.5	209	57 (64) Albright & Wilson	103	87	92 (—) Smith Industries	60	52
23 (29) Rank Xerox	230.2	176.8	58 (65) De La Rue	102.3	74.6	93 (93) Arthur Guinness	59.5	59.4
24 (19) Davy	225	223	59 (62) Reed Intl.	100	87.2	94 (83) Weir Group	58.4	45.4
25 (25) Lucas	223.9	191.4	60 (46) Plessey	97.4**	113.7	95 (—) Cadbury Sch.	58.3**	48.9
26 (28) Rothmans Intl.	217.1	209.4	61 (52) Assoc. Octel	94.9	96.3	96 (—) Wedgwood	57	48
27 (26) Inco	215.7	190.9	62 (69) STC	94.7	77.3	97 (—) Bowater	55.5	44.5
28 (22) BAT Industries	211	263*	63 (58) Seagram	93.5	88.3	98 (96) Tootal	55.4	56.8
29 (28) Philips	204.5	177.2	64 (55) Becham	92.2	90	99 (—) Automotive Prods.	55.4	47.6
30 (21) GKN	193.1	215.7	65 (92) Alcan Aluminium	91.9	60.4	100 (—) Sears	54	47
31 (39) Talbot	189.4	121.4	66 (79) Grand Met.	91.4	68.2			
32 (31) Boral	189*	99.3	67 (57) Esso Chemical	88.5	88.4			
33 (34) Caterpillar Tractor	173.8	135	68 (77) Delta	79.2	69.7			
34 (33) Ciba-Geigy	167.2	148	69 (78) D. Brown Tractors	78.3	68.8			
35 (50) Mobil	163	106	70 (98) Westland	78.3	55.1			

\* Not comparable, see text. † Calendar year.  
‡ 15-month period. || Year ending January  
1981. \*\* 53 weeks.

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## World Economic Indicators

TRADE STATISTICS				
	July '81	June '81	May '81	July '80
U.S.A. \$bn				
Exports	19,264	19,870	18,869	18,267
Imports	20,644	21,975	21,310	19,135
Balance	-1,400	-2,105	-2,441	-872
France FFbn				
Exports	48,258	47,970	47,010	40,974
Imports	54,373	53,900	50,357	47,639
Balance	-6,115	-5,930	-3,347	-6,665
W. Germany DMbn				
Exports	36,26	32,40	31,30	29,20
Imports	32,59	30,70	29,70	29,10
Balance	+3,67	+1,70	+1,60	+0,10
Japan \$bn				
Exports	13,600	12,390	12,470	11,341
Imports	12,070	10,010	11,320	11,128
Balance	+1,530	+2,380	+1,150	+0,113
Holland Flbn				
Exports	15,055	13,507	13,864	11,882
Imports	15,488	13,718	14,024	12,224
Balance	-0,433	-0,211	-0,160	-1,352
Italy Lirebn				
Exports	6,192	7,265	5,250	5,597
Imports	9,844	9,387	7,114	7,089
Balance	-3,652	-2,122	-1,864	-1,492

## BSR LIMITED

### Interim Report

The unaudited results for the Group for the six months to 4th July 1981, prepared on a historic cost accounting basis, together with the comparative figures for the previous year, are as follows:

	6 months to 4.7.81 £'000	6 months to 28.6.80 £'000	12 months to 10.1.81 £'000
SALES TO EXTERNAL CUSTOMERS	66,830	69,278	141,260
TRADING PROFIT/(LOSS)	5,252	(767)	(6,369)
Redundancy Costs (net)	(151)	(1,711)	(4,800)
Interest payable less Dividends and Interest receivable	(2,326)	(2,663)	(6,460)
Loan Interest	(9)	(14)	(27)
PROFIT/(LOSS) BEFORE TAXATION AND EXTRAORDINARY ITEMS	2,766	(5,155)	(17,656)
TAXATION	(196)	867	4,984
PROFIT/(LOSS) AFTER TAXATION AND BEFORE EXTRAORDINARY ITEMS	2,570	(4,288)	(12,672)
Extraordinary items net of Taxation	(365)	(350)	(2,911)
PROFIT/(LOSS) AFTER TAXATION AND EXTRAORDINARY ITEMS	2,205	(4,638)	(15,583)
Minority Interests	(1,077)	(1)	(421)
PROFIT/(LOSS) ATTRIBUTABLE TO ORDINARY STOCKHOLDERS	1,128	(4,639)	(16,004)
Earnings per share:	1.675p		

In the Chairman's Report to the Accounts for 1980 it was anticipated that the first six months of 1981 would show a loss with a return to profitability in the second half of that year provided sterling did not appreciate over the exchange rates then ruling and that costs would be kept under control. Since then the movement of sterling, particularly against the dollar, has been advantageous, not only in determining the value of the dollar, but also in increasing the sterling value of overseas assets which by applying the rates of exchange ruling at 4th July 1981 have been enhanced by £4,004,000. It is pleasing to be able to report trading profits of £2,205,000 for the six months of the year which compares with a loss of £767,000 for the comparable period in the previous year. However, after deducting redundancy costs and interest charges, the profit before taxation and extraordinary items was £2,766,000 which compares with a loss of £5,155,000 in 1980. After providing for taxation, deducting extraordinary items and minority interests, the profit attributable to ordinary shareholders is £1,128,000 which compares with a loss of £4,639,000 for the first half of 1980.

As regards our recent acquisitions, the trading results of the Capetronic Group have not been included as the acquisition of the net assets was not completed until 19th June 1981 but will be so for the second six months of the current year. Astec International Limited became a wholly owned subsidiary on 13th July 1981 with the purchase of the outstanding 46.4% of the share capital from the other shareholders and the profits normally attributable to that minority, which amounted to £1,090,000 for the period under review will, for the second half of the year, become wholly attributable to the stockholders.

Turning now to the second half of the year the outlook is mixed. Trading conditions in the UK remain extremely difficult in all sectors of our business and the high rates of interest in the USA continue through the year then it would be reasonable to assume that they must begin to impact adversely upon consumer spending there. Action is continually being taken to reduce our operating costs still further and, as in the past year or so, emphasis is being maintained on the control of cash through further reductions in working capital, especially stocks, notwithstanding the fact that all major factories are now working normally. We shall, of course, benefit overall if sterling remains at its present level but the exchange markets have been too volatile in recent months to be able to forecast with any degree of certainty what sterling's relationship with the other major currencies will be at the end of this year. The level of business is being well maintained in our Far Eastern operations and the Management of Astec International Limited are confident that they will achieve the profit forecasted in the circular to shareholders dated 25th June 1981 whilst a useful contribution is anticipated from the Capetronic Group of companies. Overall therefore we expect to make further progress in returning the company to profitability.

The Directors, therefore, propose that an interim dividend of 0.5p per share be paid on Friday 11th December 1981 to holders of ordinary shares who are on the register at close of business on Friday 16th October 1981.

## Tokyo bank set for pipe talks

By Charles Smith in Tokyo

THE JAPANESE Government has given permission to the Export Import Bank to negotiate loans to the Soviet Union for use in connection with the long-delayed Yamburg gas pipeline project. It was confirmed at the weekend.

Japan regards itself as a "subcontractor" in the project which will convey gas from fields in western Siberia to Western Europe. However, the Russians appear interested in borrowing \$600m to finance the purchase of up to seven gas compressor plants from three Japanese consortia — the groups concerned are Hitachi and Marubeni Corporation, Toyo Engineering and Mitsui and Co., and two member companies of the Mitsubishi group. Negotiations on the loan will start next Thursday when Mr. Victor Ivanov, the Soviet Deputy Trade Minister, is to arrive in Tokyo.

Japanese steel makers already have supplied pipe to be used in the Yamburg project. The Soviet Union regularly purchases large amounts of such pipe from Japan.

## No relief in sight for world's tankers

By Our Shipping Correspondent

THE CHEERLESS trend in world shipping was highlighted last week by an international report which painted a depressing short-term picture for tankers and said the outlook on the dry cargo side was uncertain.

In a week which saw little improvement in tanker business, the OECD (Organisation for Economic Co-operation and Development) noted that over 60 per cent of the independent world tanker fleet — or 121m deadweight tons — was on spot and very short-term charters or inactive.

This, said the Paris-based organisation, was "very depressing for 1981 and beyond." It saw no short-term upturn in view of high oil stocks in industrialised nations and declining consumption.

Because of the boom in grain and thermal coal trading, the dry bulk cargo markets reached record levels last year. But it added in its annual maritime transport review: "The outlook is uncertain because of the non-structural elements in the boom situation and a significant decline is expected in 1981 and early 1982, a fact reflected in the virtual absence of long-term chartering."

While coal and grain activity seemed to pick up a little last week, Galbraith Wrightson reported that the expected demand for large tankers in the second half of September had not materialised. As a result, "there has been something of a rate collapse."



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# SDP discussion papers show policy overlap with Liberals

Richard Evans and Ivor Owen look at the two prospective centre allies

## Liberal assembly set to endorse alliance but doubters remain

EVENTS impose their own logic and nothing, it seems, can prevent the Liberal Assembly, which opens in Llandudno tomorrow, endorsing the proposed electoral alliance with the Social Democrats.

With those unrepentant conviction politicians of the Right and Left, Mrs Margaret Thatcher and Mr Tony Benn, apparently determined to go on acting as unpaid recruiting agents, the glittering potential of a new centrist force in British politics is an irresistible attraction.

Never before has the dream of ending the dominance enjoyed by the Conservative and Labour Parties for more than half a century seemed so close to reality.

Those Liberals arriving in Llandudno over the weekend

who have been voicing doubts about the venture have been told to study the consistently favourable evidence provided by the opinion polls since the birth of the fledgling Social Democratic Party just six months ago.

Still not convinced? Well then, the argument runs, look at the astonishing success—just a step short of victory—scored by Mr Roy Jenkins in the Warrington by-election.

With active Liberal support, did not the unfurling of the SDP's colours for the first time in a Parliamentary contest convert a Labour stronghold into a marginal seat and inflict on the Conservative candidate the humiliation of a lost deposit?

So, doubters are urged, back the alliance and enlist the help of the SDP to ensure the triumph of Bill Pitt, the

Liberal candidate, when the by-election in Tory-held Croydon North-West takes place next month.

The Liberal doubters contend, however, that such is the mid-term unpopularity of Mrs Thatcher's Government that the capture of Croydon North-West could be achieved without SDP support.

They also claim that in terms of success attained through the ballot box the record of the Social Democrats, even allowing for their impact at local government level, is not particularly impressive.

After all, they argue, the Liberals achieved second place in 81 seats at the last general election. Reports that the SDP would like a clear run in about half of these are another source of grievance.

that the government has concentrated on combating inflation to the virtual exclusion of other key economic considerations.

He calls for a balanced approach designed to minimise sudden and sharp changes in the economic climate and which gives businessmen as much steadiness and predictability as can be achieved.

Mr Horam maintained: "At the moment such a balanced approach demands (and has demanded for some time) that we re-expand the economy."

"To do this, the first imperative is to stimulate internal demand."

Mr Horam goes on to argue that the boost to domestic demand should be accompanied

by a considered attempt to lower the exchange rate of the pound in order to stimulate demand for British goods in export markets.

On taxation, the Social Democrats would give the highest priority to keeping the threshold as high as circumstances permitted and increasing child benefits "even if it meant foregoing further reduction in the standard rate of tax."

More radical ideas considered worth pursuing include the redistribution of income towards the lower wage earner.

The CBI approach is favoured on industrial strategy, with state intervention considered to be of limited value. Greater emphasis should be placed instead on making the market function better. The present state of the unions is roundly condemned, with the TUC described as "leaderless and split."

A new strategy for using North Sea oil revenues to rebuild Britain's industrial and commercial base is advocated, with the setting-up of a North Sea Investment Fund to channel part of the revenue raised.

Trade union reform is regarded as a top priority, with internal elections conducted by compulsory secret ballot and a legal framework introduced which would give unions statutory rights in return for defined limits on industrial action.

Legal force should also be considered for union-employer agreements and arbitration awards. Individual redress against the closed shop is supported, but not abolition of the closed shop.

Housing policy is one of the most radical, with proposals that mortgage relief for owner-occupiers should be progressively reduced, public sector housing investment increased, council house sales left to local decision, and council tenants given new rights.

debated on Tuesday forms part of this process.

But all the available evidence suggests that the real anxiety of Mr David Steel and his senior colleagues is that if the alliance with the SDP is not sealed with the minimum of delay the Liberals could find themselves having to pay a heavier price for a link-up later on.

They see a danger that the contested ground which Mr Steel has already had to traverse in the preliminary negotiations with the SDP leadership could develop into a chasm.

It will be a major surprise if Llandudno does not prove to be the place where the Liberal Assembly chooses to heed the advice of David Lloyd George—never try to take two leaps over the abyss.

## Campaign urged to attract light industry to Guernsey

FINANCIAL TIMES REPORTER

PROPOSALS to spend £125,000 on attracting more light industry to Guernsey, Channel Islands, to offset the decline in horticulture are outlined in an official report published in the island at the weekend.

Electronics, and boatbuilding and maintenance are seen as two of the most suitable areas for expansion. A role for the island in servicing offshore oil and gas installations in the English Channel is also envisaged.

The report concludes that Guernsey's 20 per cent rate of income tax and "lack of bureaucratic interference" will be sufficient incentive to outbid companies to set up locally without offering other inducements.

But it is recommended that the island's Government should help local companies to meet the cost of promoting their products abroad since they do not get financial aid from the British Overseas Trade Board.

● Alderney will have its own stamps if a proposal put forward by Guernsey's post office is approved by the Island Parliament.

Originally, the smaller island wanted to run its own post office, independently of Guernsey, but finally agreed that this would be impracticable.

The plan now is to produce Alderney stamps, including both definitive and special issues, as Guernsey, Bailiwick regional stamps.

## Radio advertisers can beat IBA ban

BY OUR ISLE OF MAN CORRESPONDENT

LARGE AREAS of the North-West of England, Northern Ireland, and North Wales are now able to receive sponsored radio broadcasts. But the potential this offers to advertisers is being overlooked on mainland Britain.

This situation arises because Manx Radio, an arm of the Isle of Man Government, is outside the control of the Independent Broadcasting Authority, which bans this service.

Consequently, the station can offer sponsored programmes, a service which Mr Ian Cannell, station manager, believes offers great opportunities for expansion.

are also reports of good reception on the east coast of Ireland, north and south of the border.

"With the station's location in the geographical centre of a large area of the British Isles it is reasonable to assume that the figures which are available that it could be a good radio station to use for launching campaign advertising," said Mr Cannell.

Mr Cannell said he was sure many people who would be delighted to have a sponsored programme working for them were unaware Manx Radio could give them the opportunity.

Manx Radio is controlled by the island's own Broadcasting Commission, and IBA has no say in the type of programme we transmit," he added.

its programme closedown to 1 am. The number of phone calls received during this late night broadcasting session included as many from outside the island as from island residents.

The pattern showed the reception in North Wales was best west of Conway on the mainland and in Anglesey, an area which would not be well covered by the planned North Wales commercial radio station to be based at Wrexham.

In Cumbria a BBC station at Barrow was planned, and a commercial station could be set up at Whitehaven. Scotland was to have a station at Dumfries.

"As far as commercial radio stations are concerned, the planners are running out of areas where they could be commercially viable," said Mr Cannell.

An audience survey in the Isle of Man showed that 80 per cent of the island's population listened to Manx Radio, claimed to be the highest percentage audience figure for any commercial radio station.

Outside the island the survey was not so intensive, but Gallup Poll covered four areas, from Stranraer to Annan, from Silloth to Barrow, from Carnforth to Blackpool, and from Rhyl to Anglesey.

Although there were fewer listeners, the figures showed quite a number of the potential audience preferred Manx Radio.

So far outside sponsors had come in for events like the TT races, said Mr Cannell. In spite of recession their advertisers had remained loyal and advertising revenue had kept up.

## General Accident cuts motor insurance rates

BY ERIC SHORT

MANY OF THE 1m motorists insured with the General Accident Group, Britain's largest motor insurer, will pay less for their motor insurance when they renew their policies. Savings could be more than a fifth.

General Accident, in common with many other motor insurers, has already said it would not raise its motor rates this time. They were last put up on August 1, last year.

This year GA said that, with fewer claims and a slower rate of increase in claim costs, it would hold its motor rates steady for as long as possible.

The group had an underwriting profit of £2.9m in the first half of this year, after recent heavy losses.

Now GA has revised the rating for 40 car models and for certain areas of the UK to take effect from October 1, so that lower premiums apply in each case.

A mature driver, for example, of a Mini Metro 1.3S living in Oxford, eligible for a full no-claims discount, will pay a premium of £86 for comprehensive cover from October 1, compared with £112 last year—a reduction of 23 per cent.

Insurance column, Page 17

# BARCLAYS BANK HELPS DE HAVILLAND OF CANADA DELIVER IN THE MIDDLE EAST

De Havilland of Canada manufacture the 'Transporter,' an aircraft that's at home in places where conventional ones aren't. On incredibly short runways, in punishingly high temperatures, at energy-sapping altitudes.

Even in deserts.

And Barclays Bank of Canada provide essential

finance to get the Transporter off the ground. Barclays give de Havilland a continuous line of credit to buy engines for the aircraft. Engines capable of airlifting a one-ton truck 1200 miles and delivering it to a tiny sandstrip.

Small wonder de Havilland have an important and growing market in the Middle

East. Small wonder, too, that they chose Barclays.

We have our own branches in the Middle East so we can provide up-to-the-minute information on local markets. We transmit earnings back fast through our network so we can improve the exporter's cash flow.

De Havilland and their Transporter are just

one of an impressive list of customers and projects that we help through our branches in more than 75 countries spanning six continents.

We help most of the world's successful international companies. Somewhere there is a market where we can help you.



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# It's time you let Chase trade specialists cut the cost of corporate funding.

If you're a large exporter, low-cost export credit facilities that help your customer are all familiar territory.

But when you import components for your product or are planning a plant expansion either at home or abroad, similar low-cost fixed-rate export credits from overseas agencies can also be your most effective method of corporate funding.

There are over 20 countries with export agencies that can do a lot to lower your importing costs and increase your competitiveness. Chase has trade finance specialists in each and every one. That's why we can tell you what you can get, where and how.

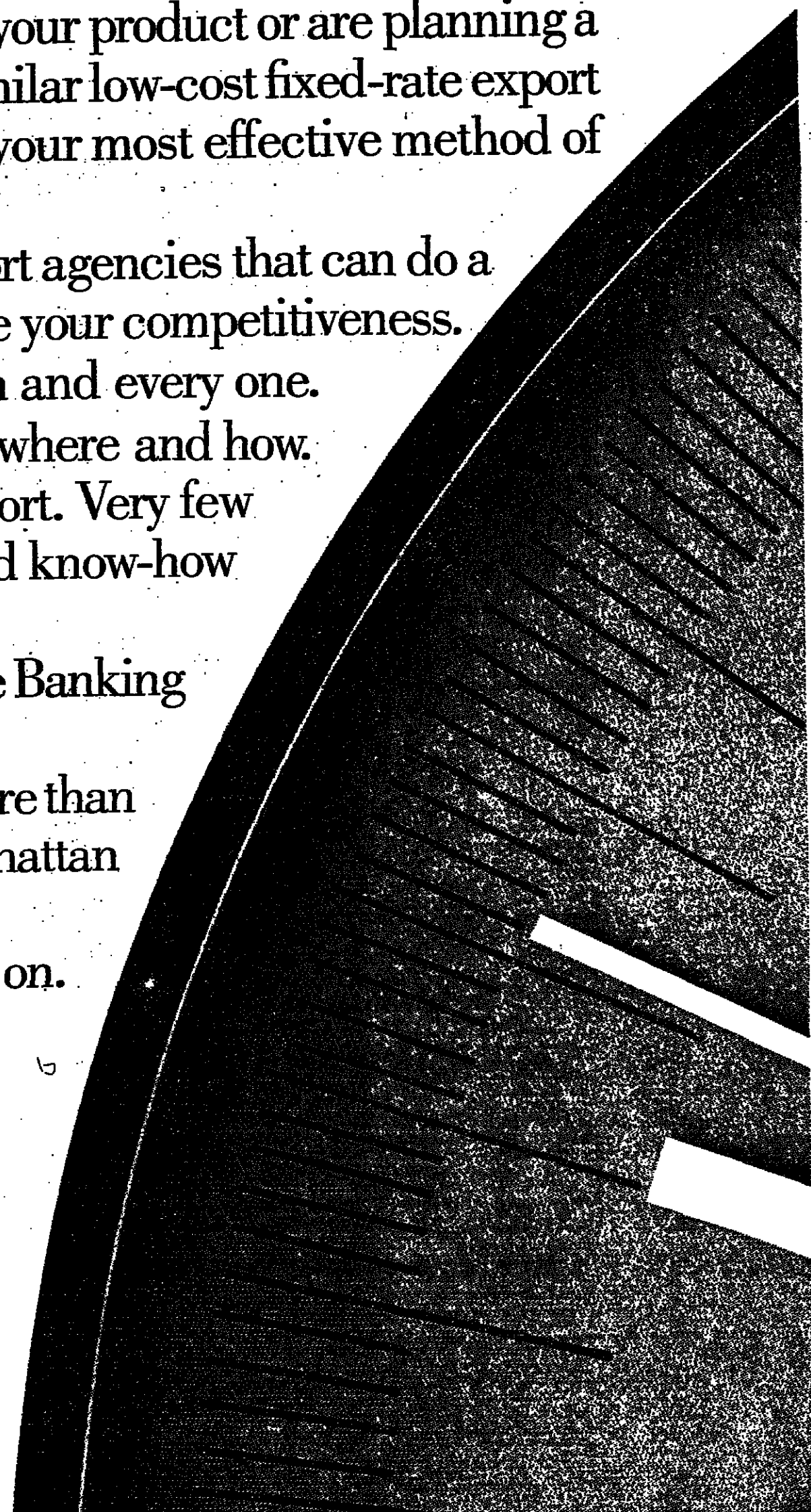
Many banks will offer to help you export. Very few can offer Chase's expertise and on the ground know-how to help you import.

Importing or exporting, the Chase Trade Banking Group responds to your needs fast.

And that's important because now, more than ever, time is money. So call the Chase Manhattan Bank.

In the race against time, the Chase is on.

 **The Chase is on.**





## MANAGEMENT



Hans Rausing: With only one product "we have to be the best in the world"

## Why a Swedish packer is so single minded

BY WILLIAM DULLFORCE

YOU ARE running a concern manufacturing products for which the annual international demand can be counted in billions. The market is expanding fast but the competition is tough. This is your recipe for financial success:

- keep away from the Stock Exchange
- do not integrate backwards; on the contrary increase your dependence on suppliers and sub-contractors
- do not diversify the product range.

Not entirely conventional, perhaps, but the only course if you are Hans Rausing and your company is Tetra Pak, the family concern which produces most of the plastic coated paper packages in which milk and fruit juices are sold in Western Europe.

Rausing accepts the risks of concentration, in that a wrong decision can cause more problems than in a diversified organisation. This challenge is made all the more tough for Tetra Pak by the fact that its business rests on equipment for which development decisions have to be taken a decade ahead.

But Rausing also regards concentration on one product as a big advantage. "We have only one leg to stand on. If that fails, the company disappears. Since everyone in the company knows we must be the best in the world, we are," he says.

An enthusiastic elk hunter, Rausing likes to explain that if you laid last year's production of 30,200 packages end to end and fired a bullet through them, it would take the bullet 2,500 hours to reach the end of the line.

The financial results of the company's policy of tightly-managed specialisation are certainly impressive: last year's group pre-tax earnings were over SKr 600m (\$137m at the dollar rate prevailing on December 31) generated from worldwide sales of just under SKr 5bn (\$1.14bn). Expressed in dollars, turnover climbed by 23 per cent for the second year running.

Expansion has been fairly constant around the 15 per cent

mark per annum for several years with sales rising some what faster by value than volume than the number of packages produced, as customers turn to more expensive containers and inflation pushes up prices.

Tetra Pak supplies customers in over 90 countries, with Europe and Asia providing the strongest concentration. It operates 21 factories, of which three turn out the filling machines and the rest convert paper and plastic into the packaging material. Only three of the plants are in Sweden, which absorbs less than 8 per cent of packaging output.

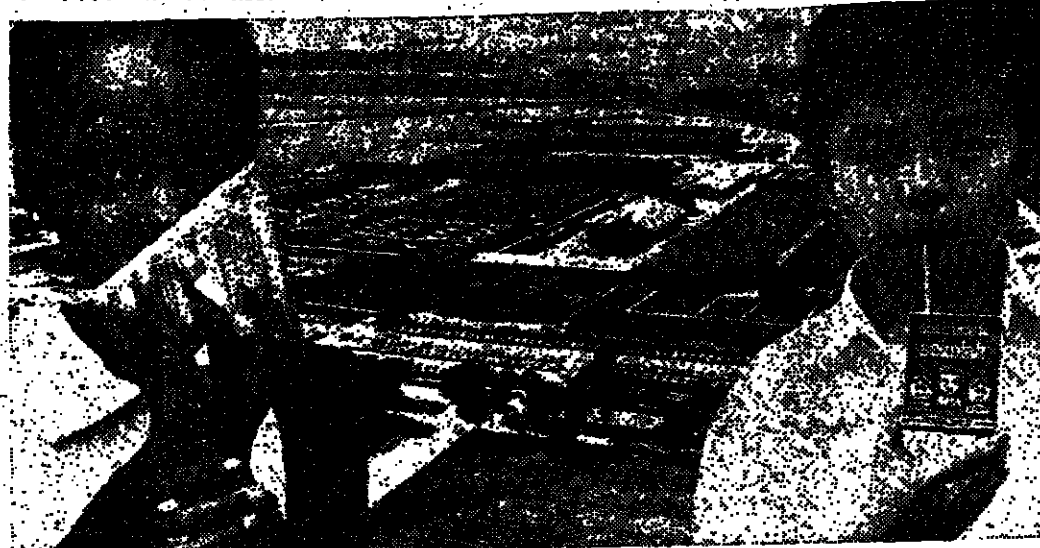
Italy is the biggest national market, followed by Japan, where Tetra Pak is one of very few foreign concerns allowed to operate a wholly owned subsidiary. The African market remains small but most of the milk produced on that continent goes into Tetra Pak containers.

In liquid packing Tetra Pak still trails its one main competitor, Ex-Cell-O Corp. of Michigan, U.S. But the Swedish company has been catching up fast, has a much bigger share of the European market and is about to challenge the American on its home ground.

### Milk

The Swedes have built up this strong market position over just 15 years. As well as being a marketing breakthrough, it has also been a technical triumph, as the company has proved the advantages of its continuous tube method of producing packages and has developed sterile packaging, which obviates the need to pasteurise milk. The milk market accounts for by far the largest part of its packaging (85 per cent by volume).

In 1965 Tetra Pak had a share capital of SKr 1m, an investment reserve containing SKr 1.35m and assets totalling SKr 98m. At the end of 1980 Tetra Pak International (the operation run by Hans Rausing, which employs 3,256 people, provides about three-quarters of



Based in Lund, Sweden (above), Tetra Pak has factories around the world producing more than 30bn cartons a year for milk, fruit juices and other products

group sales and excludes the company based in West Germany) had a share capital of SKr 75m, reserves of SKr 531m and total assets of SKr 2,98m. Profits after tax amounted to SKr 163m.

Rausing is adamant that the group's expansion and financial solidity could not have been achieved by going public. Dividends paid after tax to shareholders of a listed company are not small, he argues, while the Rausing family has limited its own dividend receipts to the amounts needed to cover wealth taxes.

In estimating the group's financial capacity for growth, a 40 per cent ratio of equity to total assets is used as a key measure. Tetra Pak assesses equity as share capital plus all untaxed reserves while most Swedish companies take share capital plus half the untaxed reserves as the measure.

Two further principles complement this financial target, in Rausing's view. They are avoidance of the temptation to integrate backwards and a refusal to diversify into new product markets in favour of concentrating reserves on the basic business.

Tetra Pak is the biggest buyer of kraft paper in the world. Its purchasing operation is based at its planning centre in Lausanne, Switzerland.

Some managements would consider it logical either to invest in or to buy a paper mill, but Rausing explains: "We would not have had the financial resources to do that on our own: we would have had to turn to the stock exchange." And that is not part of the family's philosophy.

Similarly, Tetra Pak's filling machines, which are central to its success, are designed and

developed by a staff of some 400 engineers but the components are entirely manufactured by sub-contractors. Recently Tetra Pak has also started to encourage them to produce sub-assemblies. This system is now being practised at the machine plant in Modena which, instead of importing parts from Sweden is signing contracts with local manufacturers accustomed to supplying the Italian car industry.

### Investment

Tetra Pak's internal management is based on what Rausing unabashedly calls "the feudal principle." It involves devolution, in that each managing director is responsible for his company and each manager for his department, but a very small central management group in Lund sets the goals and controls their realisation.

"If goals are not achieved because of faults in local management, we back it up from the centre only to a limited extent. If that does not help, we change," Rausing explains succinctly.

Though Europe continues to absorb three-quarters of Tetra Pak's output of packaging material, Britain was for many years a peripheral market for the company, mainly because of its special milk distribution system of home delivery. Last year, however, Tetra Pak's turnover in Britain and Ireland jumped by 43 per cent to £23m and a similar advance to £33m is projected for this year.

An investment of more than £18m in a new packaging plant at Wrexham, North Wales, is expected to give an output of 2bn cartons in 1982. Tetra Pak estimates it will be packing 25 per cent of Scottish milk and 80

per cent of Irish by the end of this year and it already claims nearly half the British retail market for fruit juices.

The U.S. has also been a relatively small market, taking less than 6 per cent of the company's production, but this year the door opened when the Food and Drug Administration approved the Tetra Pak aseptic system (using hydrogen peroxide) for retail delivery.

The initial target will be the fruit juice market, where economics favour the Tetra Pak pack. Two earlier attempts to break into the U.S. with local partners failed but the management at international headquarters in Lund is now more confident that it has found the right approach.

Elsewhere the principle of 100 per cent family ownership is having to give way to political realities. In Kenya and Pakistan factories are being started as joint ventures.

Currently, Tetra Pak faces a huge development programme, providing both for market expansion and for moves into the packaging of other liquid foods. Wine, sake, water, cooking oil and protein-rich drinks for developing countries are all seen as offering opportunities.

The programme must place considerable pressure on the company's financial resources and test the Rausing family's confidence in its self-sufficiency and in its ability to retain the group's economic independence.

Hans Rausing, however, expresses no doubts. He acknowledges that Tetra Pak is playing poker in a high risk game. But he claims it has the advantage of knowing more than its competitors about the market for liquid packaging. And he insists that a family concern can more easily take the right decisions.

## The risks and rewards

TETRA PAK today comprises a worldwide network of conversion plants producing packaging material for dairies and other customers selling liquids. The material is delivered in rolls for use in filling machines, which are also supplied by Tetra Pak. The system is supported by a network of service stations. Three factories make the filling machines.

At the end of last year 3,783 Tetra Pak filling machines were operating in the world. The smallest modern unit is capable of producing over 100 packs a year.

The profit lies in sales of the packaging materials, not of the filling machines. About three-quarters of the machines are leased because leasing cuts down the initial cost of the investment for dairies and other customers. The capital cost of a plant of the minimum economic size today is SKr 120m to SKr 150m (£12.5m-£15.5m, \$23m-28m).

Tetra Pak has been referred to as a glorified sales organisation but this underestimates the effort which goes into researching and developing new packaging and the filling machines to produce them. More than a quarter of the revenue from the machine manufacturing is invested in improving existing machines and developing new ones.

It takes 10 years to develop a new type of package and

to get it commercially established, of which at least two years are spent building a prototype filling machine. The total investment before Tetra Pak sees any return on its money is £10m to £15m.

The risk element in being so heavily concentrated is evident. Tetra Pak has to decide on an investment of this size in the belief that in 10 years' time it will have a package which will be superior to anything competitors may produce for a pay-off period of perhaps another 10 years.

"No sensible company would make such decisions. We have the choice of making them or of gradually disappearing from the market," Rausing comments.

Tetra Pak has at least five new packages in the pipeline. These are additional to Tetra King, a larger container in which plastic foam replaces paper and which it is hoped will open up new liquid packaging markets, including wine.

The Rigello bottle illustrates the risk involved in launching a new package. Aimed at the carbonated soft drinks market, Rigello is a sophisticated design involving a plastic container inside a cardboard sleeve. Like all Tetra Pak designs it can be made from rolls of material passing through filling machines.

## TECHNOLOGY

## Banks gearing up for an automated future

BY ALAN CANE

PRESSED FOR space and threatened by mounting staff costs, the major retail banks are committed to major expansion in their programme of mechanised tellers.

These automated teller machines (ATMs) or "banks in the wall" are becoming a common feature in High Street branches. Lloyds, an early leader in ATM technology, has over 1,100 machines installed. National Westminster, catching up fast, will have 500 by the end of the year and 1,000 by the end of 1983.

The experience gained with the mechanised tellers is expected to usher in a new era of electronic shopping.

Next year sees the start of an experiment in which a machine on the lines of the ATM built by NCR will be used for airline reservations.

Such a self-service ticketing system presents unusual problems of reliability, flexibility and ease of use. Mr Douglas Kelley of Douglas Kelley Associates, the consultancy which worked with NCR on the design of its ATM, says the airline ticketing machine will have to read and validate a credit card, communicate with the customer anxious to make a seat reservation and then print the ticket.

The modern ATM is a far cry from the simple Chubb cash machines, based on punched cards, which banks installed in the mid 1960s as their first move into mechanised tellers.

The new machines, for example the IBM 3624 or the NCR 1780, dispense cash, enable customers to check their bank balance and order a statement or a new cheque book.

The IBM device, installed principally by Lloyds Bank, but also by Barclays and

Barclays Bank International, Williams and Glyn's and the Halifax Building Society, enables the customer to shift money from one account to another and pay certain kinds of bill.

Customer acceptance seems satisfactory. Often there are queues at the ATM while the banking hall is deserted. In the first eight months of this year, withdrawals through Lloyds ATMs totalled £522m; last month, £50m was withdrawn from National Westminster's ATMs alone. Small sums by the usual clearing standards, but a significant pointer to the way most bankers think their business is going.

NCR, which with 2,000 ATMs installed or on order is probably now the market leader, argues that 90 per cent of all routine personal cash withdrawals will be through ATMs by the mid 1980s.

Although offering basically similar services, the technology underlying the offerings from NCR and IBM is significantly different. (Philips and Olivetti are also strong contenders in the ATM market.)

The IBM till is continuously connected to Lloyds massive computer centre. All transactions are validated and effected using the power of the multiple IBM mainframe computers there.

The machine can operate off-line through a communications controller, but the rationale behind Lloyds' choice of IBM centred on the idea that the future lay in on-line terminals.

The NCR machine, popular with National Westminster, Midland and Barclays banks, on the other hand can operate connected to the computer or work on its own.

If the customer asks for a balance, the ATM telephones the central computer for the

answer. If cash is all that is required, the transaction is handled by the ATM alone which writes on the card data relating to the date, the amount withdrawn and the amount remaining up to the credit limit.

The software teams at National Westminster and at Midland are currently converting the way information is written on the card magnetically to a new international standard.

When complete, cards and ATMs will be theoretically interchangeable. But the political of interbank negotiation suggest that ideal is a good while off.

The French, meanwhile,

have moved ahead with attempts to develop a credit card with a microprocessor and a memory embedded in it rather than a mere magnetic strip.

The result, developed by Philips, can function as an electronic cheque book. Money is credited electronically to the card and stored in the memory. When used for purchases, the purchase price is deducted from the credit by a special terminal; another terminal stores the information the shop requires for collecting the money through its bank.

The device works in laboratory trials. Test marketing is yet to come.



Philips' microprocessor card serves as an electronic cheque book

### Label print system

COMPANIES INVOLVED in the labelling of cartons and pallets and with the production of variable make-up products or specific customer labels might be interested in a cathode ray tube-based system that allows almost anything desired to be printed.

Labels are designed by the user on the face of the CRT from the keyboard. Each design can be given a reference number and can be kept in the machine's disc store for later recall. Variable fields in the label are left blank.

Then, when a particular label is needed, the design is recalled

at the press of a button, any variable information (name and address for example) is filled in and the associated printer is instructed to print the label as many times as may be needed.

At any time, new information can be added to a design of a specific label simply by calling it up on the screen and using a few buttons. An index can be displayed showing what label designs are stored. Starting price on the equipment is £6,900.

More from Alpha Numeric Systems, Marlow (06284 5265).



Queuing up to tap into £10m worth of computer power

## POINTERS

### Graviner Mark mist detector

GRAVINER, THE aviation and marine fire explosion protection company in Slough, has announced its Mark Five oil mist detection system for marine diesels.

Protection of marine diesel engines from explosions depends on the continuous monitoring of the density of oil mist from the crankcases.

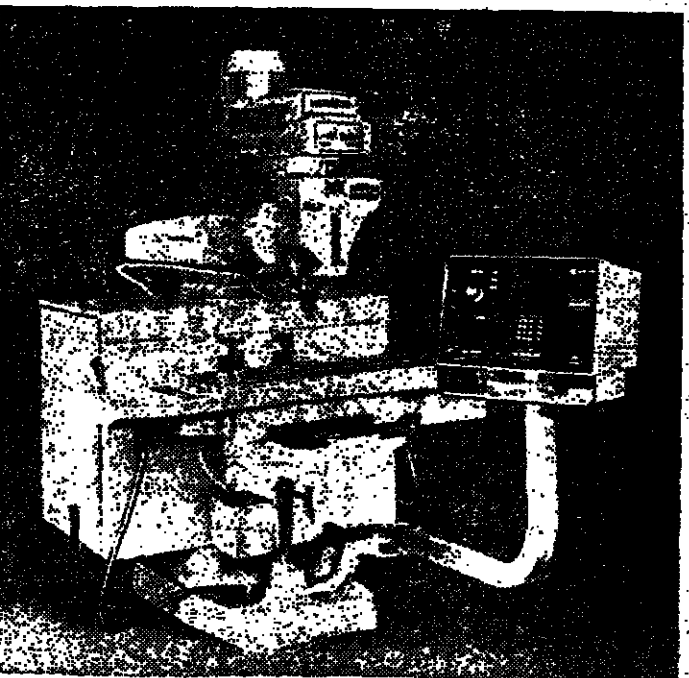
After a number of explosions, some with fatal results and the loss of the ships, Graviner, in association with the British Shipbuilding Research Association, pioneered a detection method about 25 years ago.

Graviner has since developed four models but its latest Mark Five includes a microprocessor and the company has updated the rest of the technology involved.

The company claims that its latest system can scan 10 different sectors of a marine diesel in 10 seconds with channel capabilities between four and 10 channels.

The unit is more compact than previous models, lighter and is self-compensating for oil mist build-up on the monitoring windows.

It uses solid state lamps and a liquid crystal display for the first time. Full technical details are available from Graviner at Colnbrook, Slough 3245.



### Toolmaster controls cut costs

AN ADDITION to the Toolmaster Controls range of Hurco CNC machining centres, designated the KMB 1m has been announced. A knee-type machine with a positioning accuracy to within 0.001 in,

addition to the range offers all the benefits of its programming facility but at a lower cost. More from Toolmasters 0734 891918.

## Business courses

How to Start Your Own Business. London. October 10. Fee: £15. Details from The Secretary, School of Business Administration, Thames Polytechnic, Riverside House, Avenue, Bedford Street, Woolwich, London SE18 8BU.

The KEC and the Multi-nationals. Brussels. October 21-23. Details from Management Centre Europe, Avenue des Arts 4, B-1040 Brussels, Belgium. Using Modern Computers in Business. Cranfield. October 18-23. Fee: £655. Details from Course Tutor, Using Modern Computers in Business, Cranfield School of Management, Cranfield, Bedford MK43 0AL.

Currencies - Forecasts for 1982 and how to use them. London. October 15-16. Fee: £395 (plus VAT). Details from AMR International, 6-10 Frederick Close, Stanhope Place, London W2 2HD.

Negotiating Skills. St. Helens, Merseyside. October 27-29. Fee: £105. Details from The Administrative Officer, School of Management Studies, The St Helens College of Technology, St. Helens, Merseyside, WA10 1PZ.

Improving the Trainer-Learner Relationship. Uxbridge. October 29-30. Fee: £180. Details from The Secretary, Management Programme, Brunel University, Uxbridge, Middlesex UB8 3PH.

Working and Living Abroad. London. November 4. Fee: £42 per person; £67 per couple. Details from The Short Course Unit, Polytechnic of Central London, 35 Marylebone Road, London NW1 5LS.

International Finance Conference - Adjusting Corporate Financial Strategies to a volatile environment. Vienna. November 4-6. Details from Management Centre Europe, Avenue des Arts 4, B-1040 Brussels, Belgium.

Getting Results. Slough. October 26-November 13. Fee: £950 (plus VAT). Details from Urwick, Management Centre, Baylis House, Stoke Poges Lane, Slough, Berkshire SL1 3PF.

Quality Circle Workshop - Tackling the Human Aspects of Advanced Technology. London. November 9-10. Fee: £160 (plus VAT) members, £120 (plus VAT) non-members of the British Institute of Management. Details from British Institute of Management Foundation, Management Centre, Parker Street, London WC2B 6PT.

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## Wiegand principle for UK

SITE AND building access plastic cards using the Wiegand principle together with appropriate readers are now being offered in the UK by Cardkey Systems of Reading.

Cardkey Systems' U.S. parent, VSI of California, recently bought Systematics Inc of New Jersey which produces Wiegand principle equipment.

In the U.S. Systematics will be operated as a manufacturing division of Cardkey USA and products will be sold worldwide through the group's international sales network, including Cardkey Systems in the UK. The Wiegand effect uses specially processed wires bedded in the card with magnetically polarised characteristics and a card reader with an integral magnetic field which interacts with the wires. The result is a coded signal which will grant or deny access to controlled areas by operating an electric door lock. Simplicity is the keynote. No external power supplies are needed and there are no moving parts. The only movement involved is the passage of the card itself across the reader entry slot. More from Cardkey on 0734 415211.

### Waste paper for heating

REDUCED FUEL bills as a must priority in industry could be helped by turning the considerable amounts of waste paper, card and cardboard generated by the company into useful heat.

Extracta Engineering, Holder Road, Aldershot (0252 316601) suggests the answer with its German designed waste burning system.

The company says that between 3 and 3½ kg of waste paper can produce about the same amount of heat as a litre of fuel oil. The shredder can handle up to 400 kg of waste per hour.

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## BUILDING AND CIVIL ENGINEERING

## Government support for solar studies to continue

THE DEPARTMENT of Energy is to continue to support studies into the contribution solar energy can make towards heating Britain's homes when its present four-year programme runs out at the end of the year.

Already nearly £5m has been committed to the programme and even before any official results are available from the various trials, the DoE has decided to continue its evaluations for at least another four years.

One of the most important techniques using solar energy and which may alter the shape of Britain's houses is passive solar heating. This is the use of the building itself to collect, store and distribute solar energy—rather than adding extra equipment to the home such as solar panels and mechanical pumps.

This can be achieved in many ways. At its simplest, it involves ensuring that the south-facing wall of the house has a large window area—while cutting down on windows on other walls—and increasing internal wall thicknesses to act as a heat store.

More sophisticated systems include adding conservatories to the south walls or the roof of the house to act as solar collectors.

Heat is stored in the facing wall and transmitted to the rest of the building by various means.

Another major design under trial in the UK is the Trombe Wall. In simple terms, it can be thought of as a conservatory reduced to the depth of only a few inches. Trombe walls were originally developed for climates which are cold but have sunny days, and are not so

well suited to British conditions. The Department of Energy believes that passive solar heating can make a modest but nevertheless beneficial contribution to saving energy. It estimates that the equivalent of between 5 and 10m tonnes of coal a year could be saved out of a total consumption in the order of 150m tonnes a year.

Until now much of the claimed benefits of so-called passive solar heating have been theoretical. Monitoring of new dwellings with passive systems has not been carried out sufficiently long enough to provide any conclusive evidence.

National energy consumption figures show that about 33 per cent of fuel used in the UK goes on the domestic market—about 20 per cent of domestic consumption is used for space heating.

The DoE says that the extra cost of adding the simplest form of passive solar heating in new house construction would be a mere £50 while the energy contribution would be about 100 kWh/year—about 10 per cent of the heating requirement.

Conservatories and roof collectors could provide up to 2000 kWh/year but the cost of installation is higher. A roof collector added to an existing building would cost around £400.

The DoE studies are centred around three major projects: two at Milton Keynes and one on Merseyside. The largest of the projects is centred around 180 homes on Milton Keynes' Pennylind Estate.

Houses have been built with various degrees of passive solar

heating. Most face south, have extra insulation, double glazing and thermal shutters. Included on the estate are some conventional houses, with which passive designs can be compared.

In Merseyside nine homes built by Pilkington for the elderly at Higher Bebbington have Trombe Walls. They are being compared with conventional new housing. Unfortunately, Pilkington found that the direct effect of adding the Trombe walls was not assessable because they had not built the conventional housing to the same insulation standards as those with the Trombe Wall.

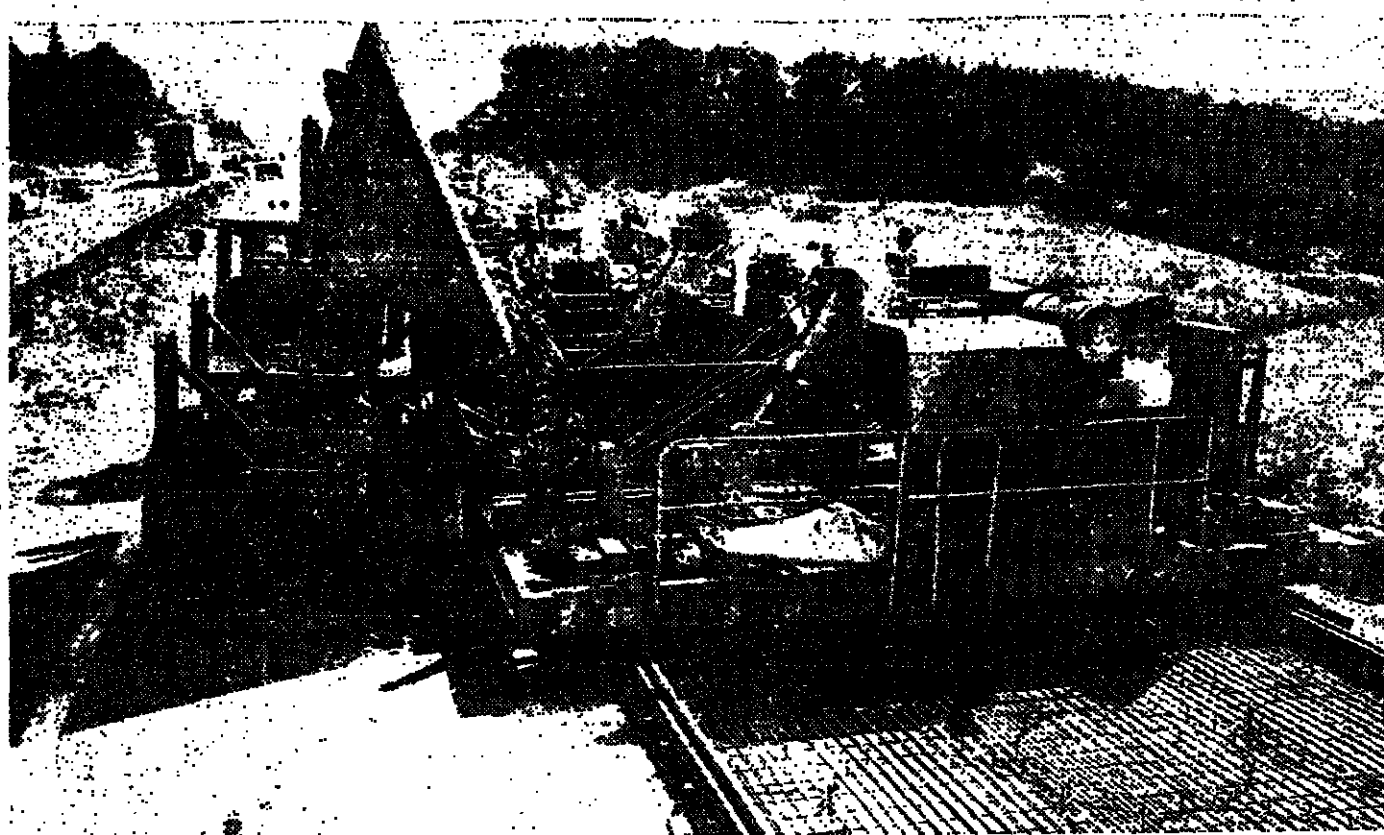
Extra insulation has now been added to the control houses and some results are expected within the next six months or so.

Dr Stephen Worsdak at the Building Research Establishment says this outlines the difficulties of drawing any conclusions about new forms of energy conservation—especially when they are based on low numbers of dwellings.

Energy consumption depends on the lifestyles of the occupants and may also be affected by odd constructional defect. So a far greater number of homes need to be built before conservationists can claim firm statistics for passive solar heating.

However Dr Worsdak says that the return to consideration of heat conservation during the design stage of homes can only be considered beneficial. "It is only good building practice to design homes and offices which take account of local environmental conditions," he says.

ELAINE WILLIAMS



CONTINUOUSLY reinforced concrete pavement is being laid as a 200mm thick traffic-bearing overslab on four 1km lengths of failed flexible road on the A2 near Canterbury, Kent, because the dual carriageway, opened in 1976, has deteriorated rapidly under the onslaught on increased heavy goods vehicle axle loadings on the London to Dover trunk route.

## Nigeria awards £16m contract

THE SURVEY, design and construction of a 14.7 km effluent pipeline from the bleached kraft pulp and paper mill complex now being built at Iwopin, Ogun State, Nigeria, will be carried out by Land and Marine Engineering (Overseas) under a contract valued at about £16m awarded by the Nigerian National Paper Manufacturing Company.

The 900 mm diameter pipeline itself will be manufactured by Johnston Pipes, Telford,

from glass-reinforced plastics resin. The work will involve laying 7 km of pipeline in jungle and mangrove swamp, 6 km of pipeline across two creeks, and a 1.7 km sea outfall for the effluent.

The sea outfall works will involve the construction of an extensive cofferdam at the beach-head and the use of Land and Marine's pull barge LM Odin, which will be taken across the South Atlantic from Uruguay to Nigeria for the job.

Dredging work for the creek crossings will be undertaken by Land and Marine's sister company, Westminster Dredging. Survey work for the pipeline project has been done and construction is scheduled to begin this month. Completion is due in April 1983.

The project is wholly financed through an ECED-backed loan and an Eurodollar line of credit managed by Morgan Grenfell and Co. on behalf of a group of international banks.

## GLC scheme for the retired

COMPLETION work on a Greater London Council housing scheme for retired people at Swanage, Dorset, will be carried out by Herbert H. Drew and Son, New Milton, Hants, whose tender of £208,086 has been accepted by the GLC.

Work on the four blocks of six flats has begun and should be finished by next summer. Construction began in May 1976, but the contract with the original builder had to be rescinded when

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## M-way deal for McAlpine

A SECTION of the M54, mainly in Staffordshire, is to be built by Sir Alfred McAlpine and Son (Southern) under a contract valued at £13m awarded by the Midland Road Construction Unit of the Department of Transport.

The section, about 7.9 km of dual carriageway two-lane motorway, will run from a point north of Codsall to the A49 trunk road at Coven Heath and the roadworks will include a grade-separated roundabout junction with two slip roads on the A449.

Related alterations necessary to maintain the side-road network, and other grade-separated crossings, amount to about 3.8 km of new or improved single carriageway road and 600 metres of new or improved dual carriageway trunk road.

Existing drainage patterns are to be maintained by the laying of three culverts and a short realignment of the River Penk. Three major overbridges, two major underbridges, two canal bridges, a river bridge and four minor overbridges will also be built.

## Mansell tots up more than £5m

CONTRACTS TO a total value of more than £5m have been awarded to the London-based privately-owned builder R. Mansell.

The largest, placed by Alliance Assurance, is for alterations and extensions to the company's office building at 27-32, King Street, Covent Garden, WC2. The architects are Chapman, Taylor and Partners.

At 33-35, Worship Street in the City work valued at £675,000 has begun on modernising and refurbishing commercial

premises owned by the Church Commissioners. Also in the City, fitting-out work valued at £50,000 is under way for Citibank at 11, Old Jewry.

Internal refurbishing of three floors of the Tolworth Tower at Surbiton, Surrey, is due for completion in 14 weeks. The contract, valued at £338,745, has been placed by Sun Assurance. Work has now begun on a £465,000 contract at 145, Friar Street, Reading, for alterations and extensions at Sun Assurance's existing offices.

A negotiated contract valued

at £609,134 has been begun at King's College Hostel, Vincent Square, SW1, on improving the existing King's College Hospital medical school building.

Other new contracts awarded to R. Mansell include a warehouse development valued at £532,000 in Havelock Terrace, SW8, for Fairwood Wiggins; factory units valued at £300,000 for J. Gardiner Holdings on the Gardiner Industrial Estate; a £300,000 contract to demolish and rebuild a teaching wing at the Henrietta Barnet School in Central Square, NW11.

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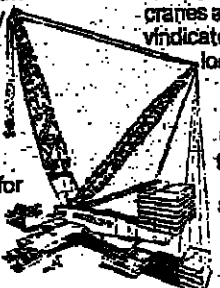
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## THE ARTS

## Royal Court

## Heaven and Hell

by B. A. YOUNG

James Boswell's delicious diaries reveal a young man with a genius for idiosyncrasy. In *Heaven and Hell*, Duffie Hughes deals only with one short period in his life, the times that followed his arrival in London; but he gives us a glimpse of the full man, conceited, lecherous, hypocritical and popular. Indeed, there he is, full-length, in the first scene, on his knees in the first scene, when it occurs to him, undertaking to avoid them, Jimmy Chisholm's likeable performance really does help one to understand why such a ludicrous chap should have made so many distinguished friends.

Dr Johnson is only one of them. This isn't just another Boswell-and-Johnson piece, it's a Boswell piece. Before we encounter Johnson, we have already met Lady Northumberland (delightfully played by Nick Ellsworth, who is well over six feet high) and two fellow-Scots, Dempster and Erskine (Jimmy Yull and Mr Ellsworth again). Mr Ellsworth is also a leopard, Goldsmith and a plump who, I'm sorry to say, claims to have served in my old regiment. The Scots embarrass Boswell, who believes that being Scottish will keep him from getting on in Society, by singing a raucous song praising Prince Charles Edward.

Jonathan Adams is a Johnson refreshingly free from the pomposity that it is so easy to attribute to him merely on the basis of his reported speech.

He has his appearance very well, tubby and scruffy, and he throws off those famous obiter dicta as a natural part of his conversation. His accent, which is strongly Cockney with added Midland u's, must surely be wrong. Johnson came from Litchfield and had been associated with men of education—writers, actors, even—for some time.

But perhaps Mr Hughes has put the accent in symbolically, for the production, directed by Richard Wilson and designed, charmingly, by John Byrne, is full of symbols. When Boswell is making love to Louisa (Celia Imrie, who is five other people, including Garriek), he has been talking to her for less than a minute before he whips up her skirt and gives her a quick grope. Louisa remains true to him for several months, and when they split, she returns all he has spent on her, a touching scene.

I like the short comic-strip scenes best; the long scene at the Hellfire Club, which finds room to show Johnson's sexual urge for torment, seemed to me disproportionately long, for all its jokes. I liked Boswell's medical treatment for the clasp; and I liked the way his diary got bigger and bigger as he found more and more of record about himself. We only see the Dictionary once; Sam is sitting on its three volumes by the leopard's cage, and he whacks it with his cane to confuse Bishop Berkeley's philosophy.

## Book Review

## Monumental Mason

by ANTONY THORNCROFT

Before I forget by James Mason.

James Mason has written a rather odd autobiography which is perhaps inevitable because he comes across as rather an unusual man. For a start there is next to nothing about his private life. He gets married and divorced in virtual asides with no explanation and no justification. His tastes, his hobbies, his domestic life barely feature. He is fond of cats, and later his children, but the information comes out incidentally. What James Mason is presenting here is a record of his acting career: for film buffs, at home with obscure directors and cameramen; it could well be fascinating; for the general reader it hardly compares with back issues of *Picturegoer*.

And yet Mason's very reticence has a quirky attraction. He has never been easy in a public role, as his clashes with journalists testify. He is his own man for better or for worse and his selfish integrity eventually excites sympathy. For example, he stood no truck with the Second World War: he reckoned that his best contribution to victory was moving to a larger house, and devoting the extensive grounds to the cultivation of vegetables. Fortunately for him the government came to realise the morale boosting role of the film industry and Mason was saved by his conscience, however Noel Coward did not regard him as patriotic enough to have a part in *In Which We Serve*.

Although Mason recalls little of his childhood in Huddersfield—he typically regrets never having asked his parents about the family history—he is a quintessential Yorkshireman, self-contained, unobtrusive, gruff. He drifted into acting, helped by his social background, after taking a First in architecture at Cambridge, and was never out of work for long. It is his early career, making the rounds of the provinces in a company somewhat similar to the troupe in *The Good Companions*, which is most interesting. By the time he has reached Hollywood there is little more than a list of films and battles

## Platform performances of one-act dramas by Yeats

W. B. Yeats' one-act verse drama *The King of the Great Clock Tower* is to be given at the National Theatre as an early evening platform performance in the Cottesloe on October 9, 10, 11 and 12. It will be in a new staging, with music and direction by Harrison Birtwistle, and performed with an earlier Yeats one-act play, *The Cat and the Moon*, also with direction and new music by Birtwistle.

Both plays, seldom seen, draw on Celtic mythology.



Careful conservation in a Suffolk town, historic houses for sale

## Architecture

## Revolving to success

by COLIN AMERY

When times are bad it is heartening to report a success story that could well be an encouragement to others. The story begins in the agreeable Suffolk town of Woodbridge where the Suffolk Coastal District Council conceived of the idea of a revolving fund for conservation purposes. The idea is a simple one. The council in 1974, voted £25,000 from its capital funds to conserve a row of 11 cottages which were then sold on the open market. The scheme turned out to be a profitable one and the money was then available for a more ambitious project.

The architect/planner Michael Talbot, who is behind the schemes, has no objection to being described as an estate agent. He feels that conservation has got itself a bad name when it is a rather negative activity that ignores the forces of the market place. There is no reason for conservationists to be ashamed of the fact that well-restored older properties can usually be sold at a profit and make very run-down areas into what estate agents would call "desirable neighbourhoods."

In Suffolk the way that the programme developed from the initial experiment in Woodbridge is instructive. The first scheme was carefully chosen. Woodbridge is a small town that has good communications with London, good sailing, good architecture: it is a booming place to live. A glance in the estate agents' windows shows how high the property values are.

The decision to restore the houses to a high standard using the services of the highly-reputable architects, Feilden and Mawson, certainly should not have failed to produce a profitable scheme.

The next effort was a more risky one. The council decided to buy the old pub, The Angel, in Saxmundham, on the main road but in a conservation area.

Some of the five acre site is to be redeveloped, leaving about an acre for the revolving fund process to tackle. On this part of the site are the managers' houses—four bay residences with a fine grey brick facade of the 1920s with a good Tuscan columned entrance. The skyline is particularly distinguished by the acroterion topped corners of the facade. Surprisingly these ears that carry carving are made of cast-iron embossed with floral garland decorations.

To make this a viable scheme it was necessary to exchange some of the surrounding properties to that seven residential units and one shop could be made available for sale. This was another success—although it took a little longer to sell the houses, and the specially commissioned Angel Inn sign, swinging over the street to remind passers-by of the more bucolic past, fell victim to a speeding juggernaut.

Woodbridge, Saxmundham, and now the latest scheme is in the centre of one of Suffolk's company towns, Leiston, not far from Aldeburgh and the delights of that wonderful coastline. This is far more ambitious because it tackles a set of buildings that do not have all the obvious charms of cottages or old inns.

Leiston is a town that grew up with the agricultural engineering works of the Garrett company. The firm, which made magnificent traction engines for farm work all over East Anglia, made the town as its business prospered. As it declined, the works in the town centre became vacant. When the receivers moved in, so the council saw its chance to tackle a really difficult conservation problem.

Some of the industrial buildings were worth keeping. The best, the Long Shop, as it is called and galleried workshop, is to become a regional industrial museum and this home for the great traction engines is to be funded by a separate trust.

Some of the five acre site is to be redeveloped, leaving about an acre for the revolving fund process to tackle. On this part of the site are the managers' houses—four bay residences with a fine grey brick facade of the 1920s with a good Tuscan columned entrance. The skyline is particularly distinguished by the acroterion topped corners of the facade. Surprisingly these ears that carry carving are made of cast-iron embossed with floral garland decorations.

## Arts

## Macready! by ANTONY THORNCROFT

Frank Barrie, perhaps most widely known for his stylish performance as Darcy in the recent BBC Television adaptation of *Pride and Prejudice*, has devised an entertainment based on the diaries of the great Victorian tragedian, William Macready. After great success in New York this one-man show has come to London and it makes a very pleasant evening.

Barrie is an attractive actor and the memoirs of Macready give him generous scope to indulge in green room gossip but also to provide insights into the world of the early 19th century theatre. Macready hated

it. He was thrown from Rugby School on to the stage to redeem his improvable father from a debtors' prison and he retired, with a £20,000 nest egg, at the age of 57 in order to regain his self-respect by organising schools for the poor in remote Shropshire. He only allowed his many children to see him on stage at his farewell performance.

So these are no recollections of a besotted theatrical. Macready had a low opinion of his fellow troupers and devoted his talents to raising the tone of the profession.

It is hard to imagine the popular enthusiasm for the

great actors of the day or the competition between Macready and Keane. At one performance in New York Macready precipitated a riot which led to 31 deaths, but perhaps other factors were at work here. He may not have achieved complete social acceptance in his life-time—Oxford University withdrew an invitation to read Hamlet to the students because an actor might corrupt them—but he left the stage in a much more respectable, if duller, state. Frank Barrie is far from dull in his timely injection of vitality into what has become a lacklustre London theatrical scene.

## St. John's, Smith Square

## Michael Nyman Band

This year the Society for the Promotion of New Music mounted its annual Composer's Weekend in London—"an intensive four-day festival," chiefly at Morley College, of workshops, forums and lectures by composers and performers, highlighted by four public evening concerts under the collective title of "Music of the Decade."

The second of these concerts, at St John's on Friday, presented a concert by one of the Weekend's resident groups, the heterogeneously ensemble which the composer Michael Nyman founded four years ago to perform his own music, at first briefly called Movable Dough, then Campiello Band, and now, more simply and to the point, Michael Nyman Band.

The instrumentation of the Nyman Band has changed since the Campiello days: only a bombard remains of the assortment of mediaeval winds and strings which used to crowd the stage, their places taken now by modern counterparts, violins, electric guitars, clarinets, saxophones—two dozen or so instruments, played by an ensemble of ten. But the manner of the music is much the same, and no less difficult to label. "Minimal repetitive rock" isn't quite it: there is more compositional complexity in Nyman's music than in most "minimal" work;

the sound-world evoked is in any case more that of Fifties Heavy Beat than rock, and there are no drums; the roots go back to Liszt, via Cole Porter and Rakhmaninov, rather than to the barbershop.

Perhaps there's no need of a label. The style, many of whose elements are obviously derivative, is a weird and genuinely original synthesis. In essence, it relies on the melodic elaboration of a repeated harmonic riff—or vice versa, the harmonic elaboration of a repeated melody. But the effect is a great deal more complex: a hypnotic palette of shifting colours that embrace (and subtly unearth) at least a score of different nostalgias. For many listeners, the nostalgias may be allergies, and the feelings unearthed may be painful or prejudicial: I can understand how sincere musicians being driven to distraction by Nyman's music (and not least by the fact, easily remedied, that the performances, all amplified, are often much too loud). But at its most quickly engaging, I find it often extremely funny, unexpectedly arresting and sometimes strangely beautiful. When the volume-level is right, the result is not (as some at the discussion afterwards seemed to find it) either overbearing or ostentatious—but on the contrary, both sincerely good-humoured and robustly insinuating, a happy

sound-ripple that gathers resonance as it goes.

The programme began with two Campiello oldies: the defiantly exuberant *Bird List* (but what has happened to the voice and the list that used to be there?—cruel excision) and *In Re Don Giovanni*, that irreverent but jubilant cross-breed of Mozart in cowboy boots with Paul Anka. Others were newer and less familiar. *Melody List* was a double-decker, a wild and plaintive melody of different waltzes played together, prelude to a creamy cinema-organ fantasy, like a rock Come Dancing. *Fire Orchestral Pieces Opus Three* derive their rhythmic and intervallic working from Webern's op. 10—No. 4 walks a tricky tightrope successfully, a homage (not merely to Webern) that is deeply sentimental without being kitschy. The last two works and the most recently written, *Songs without voice* and *Plotting for the Shopkeeper*, were the most developmental and most self-consciously "composed" but paradoxically sounded the less original and more derivative. The richer the dressing-up, it seems in this music, the blunter the edge? All praise to the newly enterprising SPNM for such an unusual diversification, and an unusual departure.

DOMINIC GILL

## Sadler's Wells

## La Fille mal gardée

Friday night's presentation of *La Fille mal gardée* I thought quite one of the nicest, most enjoyable that I have seen in years. The ballet is cramped on the Wells stage, but the dancers in the Wells section of the Royal Ballet are in no way hampered in their interpretations: a heart-warming pleasure in what they are doing marked every moment of the evening. And so the ballet looked far more beguiling in its pastoral delights than at Covent Garden, with a sense of happiness unknown in the glibly efficient and predictable playing we see at the Opera House.

Leading Friday's performance Galina Samsova and David Ashmole were a partnership of winning charm. Samsova is the gentlest of Lises, never coy or roguish, acting with what seems a radiant spontaneity. To see her unbelieveable amusement at Alain's first solo, her embarrassed tears when Colas surprises her from his hiding place, or the adorable way she and Ashmole present the little scene of prayers after the storm, is to witness detail replete with humour, exquisitely judged. As always with Samsova the dancing is a continuous pleasure in its rich texture, its phrasing, its coherence—everything makes sense. (What does not make sense is the mob-cap and hair-style Samsova adopts for the first scene—most unflattering.)

Ashmole's Colas has none of the conscientious air that sometimes makes his heroes seem dull sticks. There is eager humour, an immediacy and a verve in his reactions, which bring welcome lightness to the character. And he is dancing better than ever before: the choreography is understood, carefully mastered, even if the stage is too small for him. As with David Blair's creation—and only Blair's, in my experience—the rectitude of the dancing, its directness and honesty of manner, provide an exact reflection of Colas' yeoman worth.

From David Bintlley a slightly and acerbic view of Simone that was outshone on the next afternoon when he pulled off a noteworthy double and appeared as Alain. His Simone does not quite rise to the opening scene, but with the clog dance and the bustle of the farm-house act, the reading is as good as we know it

should be, with a fine snap and edge to the personality.

His Alain at Saturday's matinee was tremendous. Part of Bintlley's happy gift as a character dancer comes from his choreographer's understanding of the potential of the steps he performs. This Alain, gormless and sweet-natured, buoyed up on crazy enthusiasms, cuts every Ashtonian caper with zest. The catastrophes of the first solo, the attempt at partnering in the corn-field (and his final skywards exit, more agitated and storm-tossed than any I have seen), the twisted agonies of anticipation as he makes for Lise's room, are grandly explored in dynamic as well as emotional terms. There is true

pathos, true humour; it is a wholly original and convincing reading.

As a character dancer Bintlley suggests links with the best comic traditions of the theatre—back, perhaps, to Little Tich, or even to Joey Grimaldi, who once convulsed audiences on this same site, and certainly to the music-hall manner of the splendid Norman Evans for Simone.

The Lise and Colas on Saturday afternoon were Sherrilyn Kennedy and Carl Myers, who produced performances of sunny sincerity and that frankness in emotion as in dancing which wins all our affection. They are a charming couple.

CLEMENT CRISP



David Ashmole and Galina Samsova

Leonard Burt

## FOOTBALL BY TREVOR BAILEY

## West Ham win keeps fans happy

THE despondency caused by England's sorry performance in Norway last week was thankfully absent from Upton Park on Saturday where there was a feeling of justified optimism and a large, happy crowd.

West Ham not only remain leaders of the First Division as a result of their 3-2 victory over Stoke, but in the process also produced a lively enjoyable game, which held the fans until the final whistle and sent them home happy.

Goddard, the club's most expensive purchase is a young, sharp, positive lead forward who combines well with his partner, the taller Cross, who is especially dangerous in the air, whether scoring or laying on opportunities for his colleagues.

Behind, alongside, and sometimes in front of this pair are Neighbour, who is virtually an old-style winger with a desire to dribble down the right flank and centre; in the middle Allen and Pike cover an enormous amount of ground at pace and with infectious enthusiasm and on the left the elegant Devon-

shire from a standing start has the ability to slice through opposing defences.

Against Stoke, Goddard scored two spectacular goals and would have had the hat-trick he deserved but for a reflex save. The third Hammers' goal came from a penalty after Devonshire was brought down by the keeper with the goal at his mercy.

## Central defenders

The visitors must also take considerable credit for the entertainment provided, because they showed themselves to be an imaginative side who came with the intention of winning by playing constructive football, rather than attempting to stifle the opposition and pinch a point.

Although they failed, there were times, especially before the interval, when they looked as if they might succeed. However, the home team's central defenders, Martin and Bonds, gradually extinguished the real threat of Chapman and Heath and even when the latter was moved to the left flank, neither

Maguire nor O'Callaghan were able to make any more impression.

West Ham when they gained promotion last season were so plainly the best, and most cultured team in the second division, one felt confident they would finish in the top ten of the First. Whether they can continue to challenge for the league title, which they have never won, is a very different matter.

Going forward on Saturday, the Hammers were impressive and at times brilliant but they did make rather too many inaccurate passes, usually through excessive haste, which expert counter-punchers such as Liverpool are liable to punish severely.

There were also chinks on the flanks of their defensive wall that left them exposed in the first half despite the speed with which their players came back to cover.

Fortunately, in Parkes they possess an outstanding keeper—among the finest in the land. On an off day, or when the ball is not running for them, he will probably earn points, just as

Shilton has done so regularly for Nottingham Forest, and their captain Bonds, by personal example not only in defence but in occasional sorties up field, sets an inspiring example to the rest of his side.

The return of Trevor Brookings should also bring another dimension to their attack, plus the experience for which there is no substitute over a long, hard campaign.

The fact the team has done so well without him could prove a boon. It will provide Trevor with an additional spur, as well as reducing the dependence of his colleagues upon him. There have been occasions in the past when one felt that West Ham players have given him the ball in the hope that he would cure up a miracle, rather than to somebody else who was better placed.

Whatever the future holds for West Ham, one thing is certain. It is good to have them back where they belong and if they continue to play as attractively as they did against Stoke they will undoubtedly give much pleasure to all who appreciate football.

## LAWN TENNIS FROM JOHN BARRETT IN NEW YORK

## Tracy makes a \$66,000 recovery

IN A THRILLING final of sharp contrasts, 18-year-old Californian Tracy Austin beat the former Czech left-hander Martina Navratilova 1-6 7-6 7-6 to win the centenary U.S. Open at Flushing Meadow on Saturday, in a fierce 2 hours and 41 minutes struggle. Miss Austin won \$66,000, with half that sum for Miss Navratilova.

The men's semi-finals resulted in wins for the top two seeds, John McEnroe and Bjorn Borg, to provide a repeat of the 1980 final and last July's Wimbledon final that will have a strong bearing on this year's world rankings. McEnroe survived a bad fall and an angry argument with umpire Leon Lipin, who warned him publicly under the time-delay rule, to beat fellow American Vilas Gerulaitis 5-7 6-3 6-2 4-6 6-3 in three hours and 50 minutes.

In a sparkling match of tremendous hitting that lasted 139 minutes, Borg brilliantly resisted the spirited attack of Jimmy Connors to beat him 6-2 7-5 6-4.

Two years ago Miss Austin became the youngest U.S. women's champion, and it was

a highly satisfying achievement for her, after a four months' absence from competition at the start of the year with a sciatic nerve problem.

For Miss Navratilova, who had become a U.S. citizen on July 30 after moving there in 1975, it was a magnificent failure. It was a disappointment, too, for her heroic win against the holder, Chris Evert Lloyd, in Friday's semi-final had suggested she might at last capture her first U.S. singles title.

Martina can look back with pride on two fine performances. There was the same free-flowing aggression, based on a penetrating, swinging serve, early-hit approaches and penetrating volleys that make her so exciting to watch.

Miss Navratilova persevered with her attacking strategy in both matches against the best two baseline players in the game on two of the windiest days I can remember at these championships. Her courage paid, because the swirling conditions affected the methodical, accurate games of her opponent more than her own.

Afterwards Miss Navratilova acknowledged a debt to fellow professional Renee Richards, who, she said, has helped her to restore her belief in her own ability.

For a set, the brilliance of Miss Navratilova's attack prevented the tenacious little American from finding her normal rhythm. Her defences demolished, she could not find a good enough length to keep her opponent away from the net. But this mature, tough match-player—no longer the 14-year-old Alice in Wonderland figure we remember as the youngest competitor ever at Wimbledon in 1977—dug herself into the rallies and began to understand how to use the wind.

Miss Austin was denied a set point when leading 5-4 in the second set, but after the first four points of the tie-break, went against the service, broke again to lead 4-3 and forced Miss Navratilova into error to win the sudden-death sequence 7-4.

The rallies were resourceful and often spectacular with each girl trying to out-manoeuvre the

other with angles, drop-shots and lobs. After a service-break each way at the start of the final set, Miss Austin broke again to lead 4-3. But she appeared to "choke" on her lead, and lost the next game to 30 with some tentative play.

However, when she lost her serve again, after holding two championship points while leading 6-5, she dismissed the setback from her mind, and played with power and purpose to win the tie-break 6-1, aided by some fragile volleys from a tiring opponent.

This was a fitting climax to a well-organised centenary meeting that seems certain to break last year's ground record of 364,780. The Saturday crowd of 18,892 was a record for the event, and like all American sporting crowds, they were noisy and totally involved in the action.

After a spectator had been forcibly removed on Friday for disturbing the police, it was disturbing to learn that, according to the police, he was British—a refugee, perhaps, from some soccer supporters' club.



## FINANCIAL TIMES

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UK politics  
in flux

RARELY CAN British politics have been in such a state of flux as they are today, at least on the surface. It needs only a glance at the schedule of forthcoming events to take in the possibility of a change of clothes, if not a change of cast.

This week the Liberal Party Assembly meets in Llandudno to discuss an alliance with the new Social Democratic Party. Almost certainly, the motion for alliance will be endorsed by an overwhelming majority, just as the Scottish Liberal Party voted in favour last weekend. In two weeks' time the Labour movement will hold its own election for the deputy leadership: the result still seems delicately balanced between Mr Denis Healey and Mr Tony Benn.

## National mood

Shortly afterwards the Social Democrats conduct their internal party conferences in Perth, Bradford and London. There is an important by-election in the office in Croydon North-west which could well be won by the new alliance from the Conservatives. In the meantime the lack of unity within the Government camp has again been demonstrated by the almost total breakdown in communications between Mrs Thatcher and Mr James Prior, the Employment Secretary.

The recent indicators of the national mood, in so far as they exist, have also been hard to read. On the one hand, there were the riots in London, Liverpool and Manchester. On the other hand, there was national jubilation at the Royal wedding.

## Catching up

In many ways it is not surprising that the two-party system as we have known it since the Second World War should appear to be breaking up. Judged by results, it has not been notably successful in comparison with other industrialised democracies—though that is not always the comparison made by the bulk of the British electorate. It is also the case that the two-party system was based very largely on divisions of social class—though again it was not necessarily any the worse for that; it is possible to have class politics without class

war.

Today the old class divisions have been at least partially eroded. In one way that is a tribute to the two-party system. Yet it also follows that there is now a sizeable chunk of the electorate which has no natural loyalty either to the Tory or Labour Parties. From the early 1980s onwards there was a tendency among the disaffected to vote Liberal, at least in by-elections, and especially under Tory Governments. In general elections they tended to revert to the two major parties, no doubt in the belief that a vote for a smaller party was wasted under the British electoral system.

Three factors seem to have contributed to a change in outlook. The erosion of the class system has continued apace. Successive governments, whether Tory or Labour, have failed to deliver as much as they promised, thus adding to the general disillusionment with the main parties. And the emergence of the Social Democrats—in potential alliance with the Liberals—has created the possibility of a third party worth more than a protest vote. Opinion polls all summer have consistently suggested that such an alliance could be a formidable, perhaps even conquering force at a general election.

## Failings

In one sense politics has simply begun to catch up with the process of social change which the political system has itself helped to bring about. It is also gratifying that at a time when yet another government appears to be faltering so many British voters should be turning to a new alliance of the centre rather than to the extremes of left or right. It would be naive to assume, however, that the emergence of a new political grouping, whatever its support, is itself a salvation. Some of the failings in the British economic performance must lie in ourselves, independently of the political system. What we still need to know is why Britain has done relatively so badly. At this period of political flux, yet with a good two years before a general election, there is still time for all parties to apply themselves to that question.

Opening up the  
Indian economy

THE TERMS of the \$5.6bn loan India is to receive from the International Monetary Fund over the next three years are not likely to be onerous. This is shown by the willingness of the Indian Government to make the terms of the loan public, when, as is expected, it is finally signed next month. Indian officials are pleased with the way the negotiations have gone. There will be no devaluation of the rupee or strong deflationary measures, though cuts in a range of price subsidies are likely.

With the rapid deterioration in India's balance of payments the money is badly needed. The trade gap in 1980-81 rose to \$6.1bn and falling reserves are now only sufficient to cover three months imports. The main culprit in the deteriorating financial situation is the rise in the world price of oil and fertilisers, together making up well over half the import bill. In addition there has been an increase in the volume of imports of wheat, cooking oil and sugar. A poor monsoon in northern India may increase the need for food imports further and even though widespread famine can be avoided by storing food the country's finances remain very vulnerable to the climate.

India badly needs to increase its own oil production. Some two-thirds of the country's total consumption of 32m tonnes is now being imported but it is hoped to reduce this rapidly over the next four years. Production from the main offshore field, the Bombay High, is to be raised from 7m tonnes a year to 12m by 1983. At the same time tenders for exploration contracts from oil companies are being examined.

## Some advantage

These moves will bring benefits in the long term. In the meantime India can draw some advantage from the glut in the world oil market and the general fall in oil prices but these will do no more than marginally assist the balance of payments problem. It is in bridging the gap between the medium term expectation of lower oil imports and the present difficulties that the IMF loan will be most helpful.

Apart from the deteriorating

balance of payments Mrs Indira Gandhi's Congress Government can point to some useful economic achievements over the past two years. The most important of these is the recovery from the failure of the 1979 monsoon when agricultural production fell by 16 per cent. There has been an improvement in the supply of electric power in the organisation of the ports and railways. Nevertheless infrastructural weaknesses remain serious.

## Too early

The five year plan, announced earlier this year, aims to tackle these problems by emphasising export promotion, import substitution and a strengthening of the infrastructure. The rise in oil prices, the root of so many of today's difficulties, has made plain as never before the vulnerability of India's relatively closed economy to events in the rest of the world. Almost inevitably the old policy of reluctance to borrow abroad, either on the commercial market or from concessional lenders such as the IMF, is now being abandoned.

It is too early to say how far present hopes of increasing exports will be successful. The ambitious plan is for them to increase by 9 per cent a year in real terms. The problem is that export incentives, however generous, will be insufficient to promote the type of growth needed while the economy is still hamstrung by infrastructural weaknesses. Many plants are running at only half capacity.

## Bold departure

These infrastructural weaknesses derive partly from bureaucratic red tape and partly from the closed economy mentality which has dominated Indian economic thinking since the mid-1960s. The IMF loan, though it is the result of pressing circumstances, may be seen as a bold departure for the Indian Government if it matches a new openness to foreign credits, on foreign terms, with a new readiness to benefit from more open trade and investment policies. India is now too advanced and complex an economy to attempt to continue its development in semi-isolation.

THE YOUNG white Angolan conscript who had driven the Land Rover was almost philosophical after the air raid on our convoy was over. "South Africa is surrounded," he said. "There is Mozambique, Zimbabwe, Zambia and Angola. She is like a dog she bites." He mimed the action graphically.

The latest South African invasion of Southern Angola has shown just how easily the white-ruled South can bite, and hurt, its black neighbours. Angola has drafted thousands of young men into the army, military vehicles predominate on the roads, and air-raid trenches have been dug in all the towns and villages within range of the South African Impala and Mirage fighter-bombers. Nevertheless, the South African defence force has been able to invade and occupy some 15,000 square miles of Southern Angola without suffering serious losses.

Back in Luanda, the Angolan capital, the war in the south is only a distant reality. The reminders are in posters and graffiti, and in slogans shouted at a modestly attended protest rally: "Down with the racists," they say, "Death to Botha and Reagan," "The struggle continues," and "Victory is certain."

But it is economic realities which dominate everyone's lives. In the port of Luanda, some 50 ships lie at anchor, unable to unload for months on end because of appalling congestion in the docks. Those of the city's shops that are not closed boast only a bare smattering of goods on their shelves. Often they refuse to sell the goods in their windows, because they would have nothing to put in their place.

Prices seem to have taken leave of reality altogether. One fish costs Kwanzas 4,000 (\$80), almost one month's average wage; a pound of onions costs more than a bottle of wine, and two pounds of potatoes cost the equivalent of \$12. The only thriving market is the black market, where more goods are available than in the proper shops. Most people can get what they want, but only by endless queuing, or diligent searching, or having the right connections. The formal distribution system has simply broken down.

Angola is caught between a military war on its border, and an economic war at home. The Government talks about offensives on both fronts. The war on its border is a result of the guerrilla struggle being waged by the South West African People's Organisation (SWAPO) against South African occupation of Namibia (south-west Africa).

The economic war is a consequence of Angola's colonial heritage: a bitter civil war which coincided with independence from Portugal in 1975, as four rival nationalist movements vied for political power; and the mass exodus of some 500,000 Portuguese, taking with them all their possessions and skills, and leaving behind a heritage of bureaucracy and mass illiteracy.

South Africa's incursions into Angola have spotlighted that country's desperate plight, only six years after independence. The Marxist Government of President Jose dos Santos is caught between a military war on its border as a result of the Namibia struggle and an economic and ideological war at home. Despite the poor state of the Angolan economy, Swapo, the guerrilla movement, is unlikely to be deserted by its friends. Western companies operating in Angola remain convinced that the South African offensive will prove in the end to be self-defeating.

As if such challenges were not enough, the Angolan Government is also caught up in an ideological war. The ruling Popular Movement for the Liberation of Angola (MPLA) is staunchly Marxist. It relies on the support of an estimated 18,000 Cuban soldiers, and several thousand civilians from Cuba, as well as East Germany and the Soviet Union, to train its own armed forces, run its schools and hospitals, and attempt to revive its agriculture.

Not only does it face direct South African military operations in the south, but there is the continual challenge of the rival Unita guerrilla movement, the National Union for the Total Independence of Angola, whose leader, Dr Jonas Savimbi, enjoys South African support, and widespread sympathy in the West.

Although the Government is firmly committed to Marxist objectives—it uses all the rhetoric of Marxist textbooks—the means it employs to achieve those ends appear to be increasingly pragmatic. If it is the Communist states to which Angola turns for political and military aid, and assistance in its social programmes, it is to Western technology it is turning to revive its moribund economy.

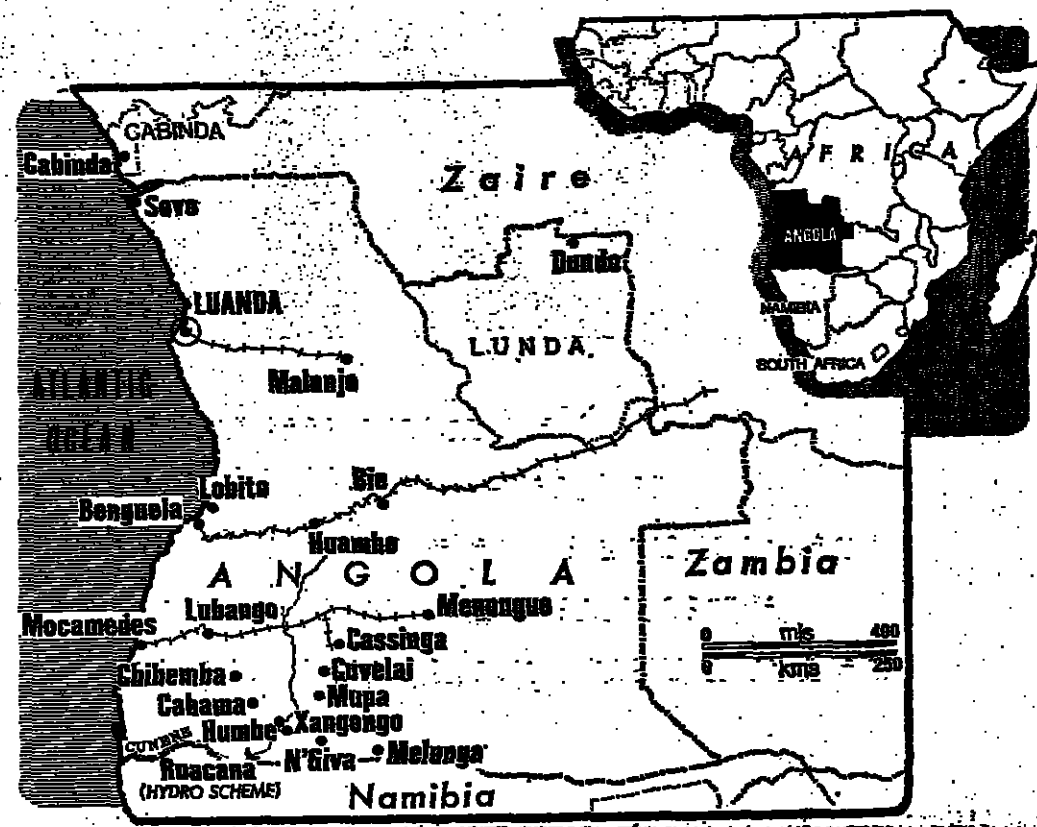
Angola used to enjoy a per capita income second only to South Africa on the continent. It is a country which boasts a wealth of natural resources, both mineral and agricultural. Above all, it has oil, and it has diamonds. Between them, oil and diamonds provide more than 90 per cent of Angola's foreign exchange.

The oil, the enclave of Cabinda, just north of the Zaire river, and at Soyo just south of the river, is being exploited by Western companies: Gulf Oil operates offshore at Cabinda, Texaco offshore at Soyo, and Petrangol, a joint operation between the

## ANGOLA AFTER THE INVASION

## Oil, diamonds and Marx

By Quentin Peel, Africa Editor, in Luanda



Angolan Government and Petrofina of Belgium, onshore in the same area.

Exploration rights have now been negotiated with a string of other companies, including Brazil's Braspetro, a subsidiary of Petrobras. Total of France, Elf-Aquitaine, in a consortium with Mobo and Agip, and the U.S. Companies Cities Service and Marathon.

The way in which diamond production has been revived is

1.6m carats.

Although the Diamond Trading Company has barely 3 per cent of the shares of Diamang, it has three directors on the latter's board. With its headquarters in Dundo, on the Angola-Zaire border, the diamond operation employs 17,000 Angolans, and some 800 expatriates, including more than 600 Portuguese and about 100 Britons.

The recovery of diamond pro-



President Jose dos Santos, who took over after President Agostinho Neto died in 1979

hardly less ironic. For the 77 per cent state-owned company Diamang relies heavily on the managerial, technical and marketing services of a company which is part of the South African Anglo American De Beers empire, the Diamond Trading Company.

Since De Beers was brought in to help revive Diamang in 1977, when production from the three diamond areas in the north-east of Angola had slumped from a pre-independence record of 2.4m carats to barely 350,000 carats, production has steadily recovered. In 1980, it reached 1.5m carats, and this year is expected to be

duction has been accomplished in the face of the same massive infrastructural problems which plague the rest of the Angolan economy. Like the oil industry, the diamond industry clearly enjoys the highest priority for both imports and expertise. All supplies for the operations, including diesel fuel, have to be flown to Dundo on a daily Hercules transport flight, which is chartered from a U.S. operator.

Nevertheless, lack of spare parts, irregular supplies of cement and delays in receiving import clearance have held back output. The Government is currently trying to persuade Diamang to increase its produc-

tion to 2m carats by 1983, in order to boost its desperately needed foreign exchange earnings.

It is hard to come by statistics that give an idea of the true state of the Angolan economy. The cost of the war, both against the South Africans, and against the Unita guerrillas, has never been specifically revealed. However, Sr Lucio Lara, the MPLA party secretary for ideology and, after President dos Santos, the most senior member of the Government, said in Portugal recently that defence spending now consumed more than 50 per cent of the state budget. Government spending in 1981 is put at \$3.6bn, which would put defence spending at \$1.8bn.

Unofficial estimates suggest that defence spending consumed more than half of Angola's foreign exchange, including payment for armaments and for the Cuban, Soviet and East German personnel.

The next greatest drain on the economy is undoubtedly the economic dislocation. Business sources estimate that the Angolan Government is paying up \$20,000 a day in demurrage charges on each ship lying idle in Luanda Harbour—which on the present total of some 60 ships means up to \$500,000 a day. This amounts to more than Angola's entire income from aid donors.

The port congestion is a function of a whole range of problems: over-ordering by state departments, a shortage of warehouse space, a shortage of handling equipment, and poor labour relations, which has resulted in chronic absenteeism. "The port is a complete shambles," according to one businessman. "It can only get better. But there is no miracle that man or God can work to sort out Luanda in two minutes."

The port is a microcosm of the whole economy. The most serious bottleneck is the skill

shortage. To overcome it, the Government has launched a huge literacy campaign and a massive expansion of primary education. But both will take years to make an impact.

The lack of skills means, in turn, a lack of maintenance of all forms of equipment, causing frequent breakdowns, and often the complete destruction of machinery. The greatest toll is on the roads, since Angolan drivers are mostly self-taught. "The worst is over now, because most of the bad drivers have simply killed themselves off," according to one Luanda resident.

Another infrastructure problem is that in most major towns the water supplies are exceedingly erratic. One reason is the great increase in demand, as water has been laid on to all the poorer areas which previously had none. The other factor is the breakdown in equipment, which was already ancient and overloaded when the Portuguese departed.

The Government bureaucracy, operated as it is by a mere handful of dedicated and skilled civil servants, backed up by an army of semi-literate manual workers, has a devastating effect on economic activities. The combination of the notorious Portuguese system of "papel azul"—endless forms on blue paper—and a highly centralised Marxist system of planning and control, has probably contributed as much as anything to the economic dislocation.

However, there have been notable improvements in some areas, such as public transport in the major towns and electricity supplies. Most dramatic of all are the improvements in social services for the mass of the population—the health services now available to all, the huge increase in numbers of children at primary schools, and the numbers learning to read and write.

It is now the military situation which is the biggest brake on Angola realising its obvious economic potential. The war in the south, though geographically limited, is catastrophic. Thousands of the more able young men have had to be drafted into the Angolan Army, and precious resources diverted to the war effort and refugee relief.

There is little doubt that Pretoria is perfectly aware of Angola's desperation. Part of the South African strategy is to make life even more uncomfortable in the hope that Angola will withdraw its support against the Unita guerrillas. However, the South African strategy may well invite wider international intervention in Angola, either involving the Cuban soldiers directly in the fighting, or bringing other Africans troops to the country.

In spite of all the economic difficulties, and the political and military uncertainty, Western companies already operating here seem keen to stay and actively promote Angola's prospects. Some have been sharply critical of the Reagan Administration's equivocal attitude towards the Angolan Government. They argue that it is in the interest of the West as of Southern Africa to promote a stable Angola, even with a Marxist Government.

## MEN AND MATTERS

## Rhyme and reason

Anxious businessmen should, as Anthony Hope prescribed, "read a little poetry sometimes."

Sir Yue-Kong Pao, venerable chairman of Hong Kong's World-Wide shipping group, reckons that he has found more reassurance about the Crown Colony's future after Britain's lease expires in 1997 in one bit of verse than in all the volumes of statistics, professional analyses, or diplomatic exchanges.

The poem, which he has been quoting widely in Hong Kong's commercial circles, is by Chinese poet laureate "Al Qing and was published on the eve of Lord Carrington's visit to China.

It says of Hong Kong: "You're the main artery of entry and exit for the motherland; You're the marketplace where goods are freely exchanged; you're the conveyor belt, bringing goodwill and friendship."

"You're the bridge that reaches towards the four seas and the five continents;



"It's a case of too much gas escaping because of too much hot air."

## Hand clasp

Rather more prosaically, another item of news from the Far East tends to confirm Sir Yue-Kong's optimism about China's attitude towards the offshore territories.

Claude Rodrigue, of stockbrokers Strauss, Turnbull, has just returned from an inter-city bridge tournament in Hong Kong at which both Shanghai and Taipei were competing. It is believed to be the first occasion on which the two Chinas, Communist and Nationalist, have met in any sport.

Rodrigue, who has played bridge for Britain 14 times, was invited to the event as official commentator, describing and analysing the play for audiences watching the turn of the cards relayed by television cameras to an adjacent theatre.

Apart from the Far East, Rodrigue's skill at the game has taken him all over Europe, the U.S. and the Middle East. "Bridge builds international friendships," and his language is English," he says, dismissing the current contretemps with the U.S. over the credentials of Britain's captain, Terence Reese, in the forthcoming world championships as "far too old a story to revive."

## Building blocks

American architect David Cooper is coming to Britain next month to try to bring the construction industry out of its slump with... Early morning jogging? Ear-splitting blasts of Mozart? Awareness exercises? Simple souls like the TUC,

the CBI and myself may think that just a little more money circulating through its veins would be tonic enough for the industry. Not at all, says Cooper. It is a question of "unlocking the creativity" of architects, engineers and surveyors and teaching them how to get into the market, find prospects and obtain contracts.

A member of the Florida design-build firm of Carlson Harris, Cooper claims that he increased business markedly during the U.S. industry's recession because of his skill in marketing. He has awards not only for building schools but for educating builders.

The principles of his success have already been purveyed in a best-selling book, but Cooper will pass them on personally at a £300 three-day course in Windsor Great Park organised by Management and Business Studies. "I don't think there's any doubt that architects need more get up and go," says MBS director, N. L. Grage.

Cooper plans to give it them by starting each daily session with a 6.30 a.m. "garden walk": wakening "understanding of the creative universe" with music recitals at maximum permitted noise levels; and then imprinting his sales techniques on the suitably receptive minds.

## Name dropping

To all but the smoothest of smooth-talking City operators, the name Quilter Hilton Goodison is a bit of a mouthful. International clients of the stockbroking firm have apparently struggled even more vainly to untwist their tongues over the years, as Stock Exchange chairman Nicholas Goodison's collection of wrongly addressed envelopes (Hilbert Quilter and Q. H. Goodison and Sons) will testify.

Anyone dealing with the partnership after October 12, however, will be able to draw a slightly shorter breath. The Hilton is now dropped and the firm known as Quilter Goodison.

Any lingering confusion with a certain London hotel will thus also be removed. Until Hilton Goodison merged with Quilter and Atchley in 1970, the former's telegraphic address was Hilton, London.

For some time the market's shorthand for QHG has been simply "Quilters." Would it have been unthinkable to drop the senior partner's name as well? "No, I don't think it was unthinkable," says a member of the Goodison family, "we just didn't do it."

## Top notes

While Brian Willott has been busily orchestrating the merger of the National Enterprise Board and the National Research Development Corporation, his wife Alison has been building successfully on her own musical talents. She made her debut at the Festival Hall last night in a solo recital of songs by Mahler, Strauss and other composers.

Willott, the civil servant recently named chief executive of the new British Technology Group, used to accompany his wife, also then a civil servant, in luncheon concerts at the Treasury in days gone by.

There are still two grand pianos in Wimbledon home. But as he has turned increasingly to other keyboard instruments, his wife has been developing as a mezzo-soprano under Fabian Smith, at the Guildhall School of Music, and Morag Noble.

## One good turn...

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## FINANCIAL TIMES SURVEY

Monday September 14 1981

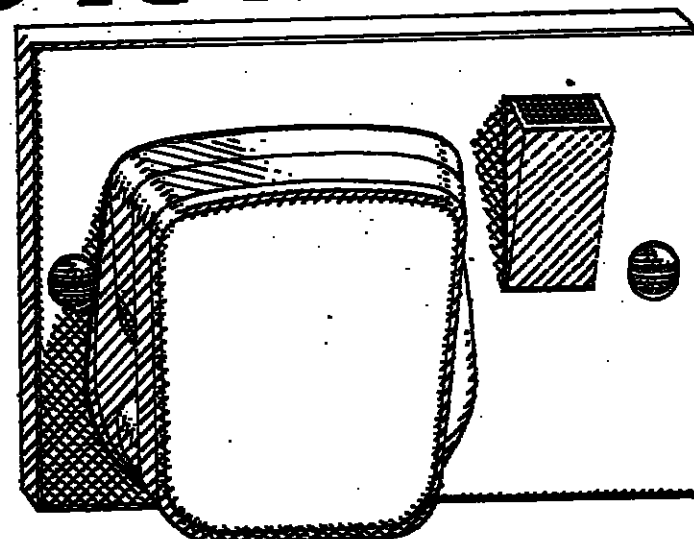
## VIDEO

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# VIDEO II

## The mutation of media and technology

**VIDEOTAPE RECORDING** became practical technology in the early 1960s developed by the broadcast television industry. In the early prototype machines the tape travelled at 200 inches per second, compared to the 1 inch per second of a modern home video recorder.

Advances in videotape recording have thus been dramatic, quantitatively as well as qualitatively, and more impressive in 30 years than aviation over 70 years.

Yet the greatest revolution in video has been its widening repercussions on other industries, media and technologies. Those early videotape recorders were merely tools of the broadcasters. At that time it seemed inconceivable that video would obliterate the future of 8-mm film, threaten the survival of 16-mm film, cause book publishers the world over to fear for their own future, and make microfilm seem old-fashioned.

For 8-mm film the writing is now on the wall. The amateur movie-maker of the future will use the video recorder-camera which integrates a micro-cassette videotape recorder with a lightweight colour TV camera. Prototypes of this camera have been demonstrated by Sony, Hitachi and Matsushita, and the equipment will be on sale to the consumer within the next five years or less.

Meanwhile, others will be marketing in Britain the remarkable Funai system—similar in compactness and quality but utilising a separate lightweight recorder on a shoulder sling.

The consumer who buys (or rents) a home video camera with micro-recorder will almost certainly possess a video-cassette recorder—used for making recordings of broadcast TV programmes and for the replay of feature films on pre-recorded cassettes. If the video disc manufacturers succeed, within 10 years at least as many homes will also have a video disc player, which displays on the television set not only movies but tens of thousands of still pictures—colour photographs, diagrams, even "pages" of text.

Thus millions of UK homes will have the capacity to use their television set for viewing feature films shot on 35 mm, home movies made on videotape (replacing 8 mm), collections of still pictures (even direct mail catalogues, as issued on video discs last summer by Sears Roebuck in the U.S.), and perhaps even conventional pages of text (generally interspersed between the still pictures on a video disc).

The sound carrier on a video disc is also of genuine hi-fi quality, in stereo; so another medium becomes involved, especially as television sets with stereo sound become popular.

This scenario is not a technologist's dream of the future. Part of it is already drawn and is now happening; the rest is operational but at various stages of commercial introduction. All this is regarded by the experts as inevitable and certain to make a substantial impact on consumer media (with a few doubts about the video disc).

But the domestic consumer is not the only customer. In industry and education, government, science and even the arts, video technologies are becoming vital ingredients in the media mix. A printed annual report may be incomplete without a supportive video-cassette; closed-circuit educational TV networks—such as that operated by the Inner London Education Authority to 1,400

## THE IMPACT OF VIDEO

JOHN CHITCOCK

schools—have been made redundant by the flexibility and lower cost of video-cassettes.

Scientific observation is simplified with the slow motion video recorder and camera (instant replay and much cheaper to run than film); fine art publishers can now contemplate the video disc with thousands of colour reproductions at a realistic consumer price when a book of the same magnitude would be priceless; no advertising agency can be without a video-cassette recorder, and in the future, perhaps, no estate agent either.

The mutation of the media has become possible in the first instance through technology. But the mutation goes further in the way the professionals are thinking about it. Enough people in television know enough about publishing, enough in the film industry recognise the potential in video, and even some in the traditional performing arts have seized upon electronic media as a new force of expression.

A few book and magazine publishers are already active in video, and what started as a technical revolution is now becoming a cultural one. Other articles in this Survey record and chart the factual evidence and some of the details inherent in this revolution. The evidence is inescapable. But its repercussions may go deeper, faring many in the media businesses with the need for a major reappraisal of their marketing strategies. For example, the broadcast television industry is now—like

the film industry—having to embrace video, because a substantial source of its future revenue may come from video. In Britain, TTV revenues are unlikely to keep pace with the rising costs of production and extra services like Channel Four. The BBC's annual licence fee would hardly pay for one evening's viewing of commercially-bought video programmes.

But the public are showing a willingness to buy broadcast TV programmes on video-cassettes—such as Thames TV's *Morecambe and Wise Show* and the BBC's *Mr Smith's Vegetable Garden*.

For the broadcasters it means that their work as producers is becoming more significant than the methods of Broad Cast distribution employed. The public utility nature of broadcasting may be diminished by the free market forces of video, and the individual viewer will become a customer instead of a passive member of the vast public audience.

This power of the free market in video is already affecting the film industry, where some new feature productions—such as *9 to 5*—are being almost simultaneously released on video. In the future they may appear first on video before going on cinema release.

Pre-recorded video-cassettes are now sold to the consumer alongside paperback books, so at the retailing end of the chain at least moving pictures and print are becoming part of the same business. At the publishing end, however, very little in the form of video programmes is emerging. The bulk of output is coming from film and TV companies and a few newly-established operations with no traditions in the media at all.

One consequence of this is the emergence of a new kind of media professional—a person who is expert with broadcasting, the cinema, publishing, industry, electronics, informatics and finance. It is an extraordinary mixture of skills, perhaps, but it is needed by the businessman who is now involved in video.

Some shrewd observers may note that a few British companies—such as the Granada Group, Thorn EMI, the Rank Organisation and EMI—already combine many of these same activities and skills.

The same influence works its way to the periphery of the media industries. In advertising, for example, video has become a catalyst in involving the agency in not only TV commercials but corporate communications. Sponsorship of video programmes, point-of-sale marketing, publishing, and so on.

An example of unexpected alliances in this field has been the recent formation of VIBA Communications—a joint company set up by Viwes and the Charles Barker Group. This operation is offering consultancy services on video hardware and software, production work, TV training (behind and in front of the camera), distribution and technical facilities, satellite and video network services, corporate communication and advertising services related to TV and video—and across a spectrum of technical expertise that embraces everything from still photography to TV satellite.

Viwes is the world's leading TV news agency, supplying over 250 international TV stations with daily video and film news clips—usually beamed via satellite. It also has extensive technical facilities, runs training courses in TV production (especially for overseas clients), maintains a large stock shot library of both news footage and still photographs and even has a sponsored film production division.

Charles Barker, one of Europe's leading advertising and public relations agencies active in corporate and business communications, held the key to the

industrial and marketing end of the business. It is the kind of marriage—between a world leader in broadcasting and a City advertising/PR agency—that only three years ago would have seemed impossible.

It is helpful to identify in this media free-for-all the common strands which appear to run through the projects which look most viable. One is concerned with the collection and dissemination of information, especially information of a type which people in coherent groupings require. Another is the television screen, which must invariably be within reach at the end of the distribution chain.

In between is a special combination of production and marketing facilities, which on the one hand is capable of converting the information into a form receivable on the television screen and on the other hand has the wherewithal to reach those screens and also the commercial means of making the exercise profitable.

The last part of the exercise is perhaps the most difficult and the one which this industry is still in a volatile, indecisive



Philips video replay system offers high-quality colour pictures and full stereo sound

mind about—with no clear *modus operandi* yet evident. The TV rental business is providing one important chain of outlets for video programmes which can reach the general public. But so, too, are bookshops, department stores such as Woolworth, petrol filling stations, direct-mail companies (selling sometimes through broadcast television).

It is as if the book trade existed solely through the same peripheral outlets just listed (which it does), but without any mainstream retailing through outlets known as book shops.

On the industrial and commercial level, the same uncertainty exists as to what kind of corporate entity will service this new mutation of the media. Is it the advertising and public relations agency, the specialist video consultancy, the corporate communications agencies, the information technology companies, the TV rental groups (which lease and service video networks to companies such as British Home Stores and Marks & Spencer)?

Since this technology may be used for anything from the tabulating to oiling the wheels in international negotiations with foreign governments—without, perhaps, sponsored video-cassettes released to the public as another facet which may involve print publishers such as IPC—it can be seen that a very strange creature indeed is emerging.

Perhaps one of the most interesting common strands is that provided by the connection between High Street consumer, company employee, broadcast TV viewer, manager, student and professional. In the future all these disparate groups may find themselves being served by one and the same company.

IN 1979, Japan produced 2.2m video recorders; last year the figure was more than doubled at 4.44m. This year output will be nearly doubled again at around 8.4m.

These simple statistics summarise the remarkable growth rate of video, and indicate the potential for the medium in world markets. Japanese exports have more than kept pace with production and fewer than a dozen companies in that one country are supplying over 90 per cent of the world's video recorders. In the four years to last December that amounted to an export total of 6.49m machines—the proportion of output going for export rising from 52.6 per cent in 1977 to 77.5 per cent in 1980.

As production capacity increases, the export quota also rises and both repeatedly set new records as each month's figures are announced by the Electronic Industries Association of Japan. The well-known Nipponese penchant for setting—and surpassing—production targets has caused two upward revisions of output forecasts this year already. In January the target was only 6.3m.

One reason for the increase is that supply is already in danger of being outstripped by demand. Consumption, especially in Europe, has been underestimated. Within the next year it seems inevitable that production of Japanese recorders under licence in Europe will begin so as to satisfy the burgeoning market.

The largest markets remain the United States and Japan itself. U.S. sales to dealers reached 543,473 units in the first half of 1981—an increase of 90 per cent over the same period last year. As the second half year usually accounts for around two-thirds of the year's total deliveries, American dealers could handle up to 4.6m machines this year. Again, an exponential growth pattern is evident, with each year's take-up roughly doubling that of the previous 12 months. In this case it would mean 2.25m video recorders in use in the U.S. by the end of the year.

Japan will probably take about 1.5m units this year in addition to nearly 2.5m already taken up. This represents a cumulative total of something approaching 7 per cent of Japanese homes with television. U.S. penetration will be about 4 per cent at the year-end.

Significantly, if forecasts that there will be 1.55m machines in British homes by the end of

1981 prove correct, the UK penetration rate will be almost identical to that in Japan and could even overtake it. Britain certainly has the fastest take-up rate of any country at present and at mid-year was numerically on a par with the U.S.—113,000 imported into the UK in the monthly-affected month of June.

The strength of the UK market is largely the result of a vigorous TV rental sector; there is a remarkable similarity between the graphs for video sales and for monochrome television sets in the late 1940s and early 1950s.

The only European country to rival the UK is West Germany, which until recently could claim to be the world's third largest video market. At the end of last year it was estimated that 375,000 recorders were in use in the country. Now forecasts for 1981 are only slightly below those for the UK—650,000 units is the widely quoted figure.

The four mentioned so far—Japan, U.S., UK and West Germany—will be the countries with more than 1m video recorders by the end of the year. It is also perhaps of some significance that two-thirds of the world's video recorders will be in just four countries—the same four countries that have half the world's television receivers.

France is lagging behind relatively: JVC Video France, whose VHS system is market leader, reckons under 200,000 recorders were in use last January. During this year a further 230,000 deliveries of all brands will be made over—30 per cent of them portable units. Another industry estimate puts 1980 sales at 140,000 machines. JVC forecasts 10 per cent penetration of French homes with television by early 1982.

The Netherlands, where 160,000 recorders will be added during 1981 to the existing number of around 120,000 and the Scandinavian countries, led by Sweden, have lower totals but relatively higher penetration because of the smaller number of homes.

The remaining units are spread fairly thinly across the world. Spain, South Africa, Peru and Colombia are all said to have 50,000 machines each, for example, although trade statistics are unreliable for most of these other territories.

Video-tape consumption appears to average about six cassettes per recorder per year. Japanese sources estimate 1981 demand at 100m blank video-cassettes and world production now around 10m units a month. This, too, is double last year's

figure of 5m cassettes a month. It is accounted for partly by growing cumulative recorder ownership, partly by growth in the demand for pre-recorded tapes. About 20 per cent of all cassettes made this year will be sold with programmes recorded on them, compared with 15 per cent in 1980.

In the UK, projections for sales of videograms in 1981 are in the 3m-3.5m area which, at an average unit price of £25, means a software turnover of up

to £125m this year. In the U.S., about 50 titles have so far been awarded "golden video-cassettes" by trade organisations to mark retail sales in excess of \$1m each.

Another emerging trend is the demand for home video colour cameras. Japanese production reached 620,000 in 1980 and is expected to exceed a million units this year. Although this figure is already quite high, amounting to one camera for every eight recorders, the market potential is still barely tapped. The perceived user value of a video camera has yet to match the asking price.

Reductions in manufacturing costs, which are almost certain to follow adoption of charge-coupled device (CCD) sensors in place of conventional cathode ray tubes, will reflect in retail prices. The first consumer CCD camera, introduced in Japan by Hitachi last April, costs ¥350,000 (£800).

Given that real term prices of video recorders have fallen by 40 per cent in nine years—and blank tape by 83 per cent when costed by the hour—cameras can be expected to follow this pattern.

The effect of all this growth on the Japanese electronics manufacturers has been to boost their financial results to record levels, with video recorders now the largest single item for the two leading competitors, Matsushita and Sony. Exports, as might be expected, have also increased substantially overall. In the six months to May 1981, video provided 18.5 per cent of Matsushita's sales revenue, compared with 10.5 per cent from colour television. Sony's first half saw video leap to 28.6 per cent of turnover.

Compared with the Japanese success, European efforts lack

substance. Despite launching the first consumer video recorder about seven years ago, Philips and its partner Grundig failed to consolidate that advantage. Their hopes are now pinned on the V2000 system, for which Philips has a plant in Vienna capable of producing 750,000 machines a year. It is now converting another factory, at Krefeld, West Germany, to increase capacity.

Grundig will be able to turn out up to 400,000 units a year by next March. But their combined total amounts to no more than 10 per cent of 1982's foreseeable production capacity, consequently limiting the ability of the Philips-Grundig partnership to capture a major market share except in countries where trade barriers are erected against the Japanese to protect local industry.

Philips and Grundig now have about 8 per cent of the European market with their current and previous systems; they have no stake in the U.S. or Japan.

The success of video-cassette recorders has caused increased scepticism about the prospects for video discs. So far only the U.S. has experienced video disc marketing; players come from Philips in Europe and from a growing number of Japanese firms. But the first major U.S. production of any video-product is that of RCA's Selectavision disc system, which was launched last March.

RCA has forecast sales of 200,000 of its own players and 2m discs this year. Market reaction has so far failed to match expectations and only a little over 30,000 players of all makes had been sold by early July. Nearly all were claimed by RCA.

This autumn may see prospects brighten. In the 31 years since Magnavox launched LaserVision in Atlanta, Georgia, disc player sales have averaged just over 2,000 a month. The single most important cause for this disappointing performance is the limited range of discs available. There are still about 10 times as many titles released on cassette, nearly all of which are also available on short-term library rental.

But now that efforts are being increased in video disc production—and Philips has just postponed its planned autumn launch in the UK—sales could pick up. Whether there will be annual output of more than 8m video disc-players by 1984 is another matter.

The writer is editor of *Screen* magazine.



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## VIDEO III

## Three rival systems compete for a world market

THE WORLD'S first video disc system to be sold to the public was invented and made available by John Logie Baird in the 1930s. But the first serious commercial system (Baird's was extremely crude) came in 1975 with the launch by AEG-Telefunken of the TeDe (previously named Teledec system).

It was short-lived for a number of reasons: the discs only yielded 10 minutes playing time per side, they were highly susceptible to handling, and they were found to develop technical defects during storage.

The launch was postponed because of these problems and the system finally came to the market with a mere 50 titles available. Most of them were the kind of material that gets screened on broadcast television during the daylight hours of Sundays in August.

The technical breakthrough in video discs came in 1972, when Philips demonstrated its VLP system. This created a stir of excitement by reason of its high quality performance, long playing time (about one hour per side), open-ended technology employed, unique versatility with variable speeds of motion, single framing/rapid search, and the ruggedness of the disc which can be handled more freely than even audio records.

Now, nine years later, the Philips video disc system seems

farther away from fulfilling its early promise than ever before. It took seven painstaking years for it to make a tentative commercial appearance in one U.S. market (Atlanta in December 1979), there were early technical problems with the discs, and there were too few titles available.

These were mostly of the kind that gets screened on broadcast television during the evening hours of Sundays in December. The launch was delayed for the UK postponed at least twice, and the name of the system was changed from VLP to LaserVision.

If the similarities with the TeDe system seem rather harshly delineated—in many ways that is unfortunate because LaserVision is a brilliant achievement. Like the Concorde it is simply years ahead. And, again like the Concorde, there are many in the industry who really want it to be a commercial success.

Those same supporters, however, are almost unanimous in their frustration over the apparent inability of Philips to solve a succession of production and marketing problems and its unwillingness to promote the unique facilities of the system by a massive investment in the new kinds of programming which will make the public want to buy the equipment.

Meanwhile, in just five

months since the launch of its rival SelectaVision system in the U.S., RCA has already sold nearly as many players as Philips and its licensees in over two years. But, unfortunately for RCA, that just isn't good enough, because its March 1981 launch was a massive publicity exercise claimed to cost \$20m with an end-1981 target of

VIDEO DISCS  
JOHN CHITTOCK

200,000 players sold. If RCA reaches half that figure it will be very lucky indeed.

As some people have observed repeatedly, the RCA system has many disadvantages: the discs require permanent protection in a rigid "caddy," the replay quality is inferior to the Philips system, it has no stereo sound like LaserVision, and none of the special single frame, indexing and variable motion facilities of its rivals.

In consequence, RCA have gone for broke in the only way open to them—a huge investment in programmes, mostly of the kind that can be seen on broadcast television any Sunday evening, such as very popular

So far the commercial development of the video disc has offered the public just another way of viewing material that is available on television anyway. With videocassette recorders offering automatic clock control of on/off and channel selection up to 99 days in advance, who wants to invest in another piece of equipment that offers nothing extra but has the disadvantage of no recording facility?

Over the Christmas holidays in Britain one painstaking video expert counted over 40 feature films transmitted on the three channels. All were fair game for (illegal) recording by videocassette machine owners. Many of the very same titles are being offered for sale on video discs in the U.S.

It is against this background that the Philips and RCA systems are battling for consumer acceptance in the U.S., and it explains why credibility in the medium has taken a severe knock in recent months. The players and the discs are cheaper than videotape systems but not dramatically enough to make much difference.

In this situation Philips should have had a substantial advantage over rival disc systems and the challenge of cassettes. It had a system that was technically and operationally extremely elegant, potentially different from

normal TV viewing and a marketing lead of over two years in the U.S.

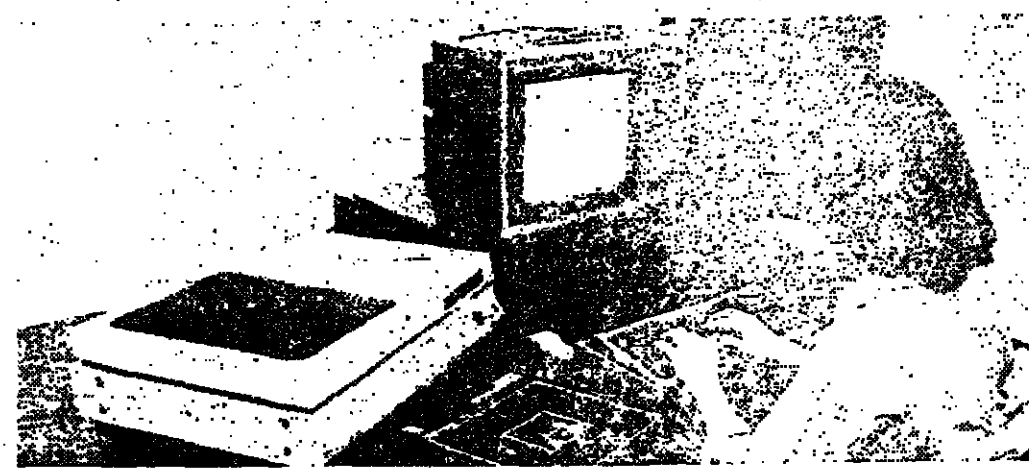
That lead, however, has been poorly exploited; and in the UK it has diminished to one of only months as the emerging contender so far not mentioned in this article—JVC's VHD system—prepares for British and European introduction next summer.

Despite a hoped-for launch of LaserVision in UK last winter, then last May, and now the autumn, the VHD system, only announced in 1978, will have narrowed the Philips lead to one of insignificance. No one doubts JVC's ability, with its partners Thorn EMI, to meet the summer date.

The VHD system now increasingly looks like the make or break for consumer acceptance of this technology.

Despite RCA's marketing strengths there is little belief in the industry that SelectaVision will survive for long; and despite the excellence of LaserVision, Philips seem unable to make the right decisions fast enough or seem to have the means of implementing them exactly as planned. It may be now too late to halt the rolling optimism of JVC and Thorn EMI.

That may leave only one unanswered question. Will the VHD system establish for video discs a substantial place in the consumer market alongside



A student learns Spanish, using a videodisc (left) and a personal computer, both overlaid on a typical television set. This versatile system costs well under \$5,000. A similar system can also be used for flight training and other applications

video-cassette technology?

On performance it can do it, with picture quality almost up to LaserVision's, and similar facilities for freeze framing, rapid access, variable motion replay (although not quite so advanced as Philips' and encumbered with a protective "caddy" for the discs). On price it can beat LaserVision and widen the advantage against videocassettes.

Yet most of all it looks like succeeding now because Thorn EMI, almost alone in this respect, have evolved a policy for programme production

which aims to exploit thoroughly the unique characteristics of the system, in which stop motion, slow motion, rapid access and interactive viewing are all designed into the programmes.

This is backed with a £2.3m initial investment in the creation of the programmes and a distinguished creative team of producers on the full-time pay role (Philips has just one programme, consultant in the UK whose two-year contract expires next month).

Only by the public recognis-

ing, from the beginning, that video discs are indeed different from anything else can the medium succeed. The public can do that only on the basis of the programmes available, which must offer such exciting new possibilities in the visual exploration of their personal interests that they cannot possibly resist the temptation to buy.

Thorn EMI knows this and therefore stands less risk of becoming just a part of video disc history alongside Telefunken and John Logie Baird.



The Japanese have so far invested \$1.2bn in video recorder manufacturing facilities. Matsushita (above) has alone invested \$350m in its three main factories

## How the West was won

JAPANESE video companies have succeeded in winning European, North America, Middle East, South East Asian markets with their cassette recorders.

The most reliable trade estimates put the Japanese penetration of the world market at 95 per cent, which is very nearly a monopoly.

Victor, with its video home system (VHS), and Sony with its Betamax system, are the market leaders. The only non-Japanese competition is provided by the Philips-Grundig V2000 system, modified last year from a 1979 system which was not successful.

Japanese industry sources say that the market ratio between VHS and Betamax is 70 to 30 in favour of the Victor VHS system, 80 to 20 in the U.S., 70 to 30 in Japan itself, and 70-30 in Europe, with Philips-Grundig having only a 10 per cent share.

The Japanese Electronics Industry Association estimates that video recorder production this year will reach 8,400,000 units, up from an earlier prediction of 6,500,000 units. Last year the total output was 4,411,000 units.

Of this year's output at least 1,500,000 are expected to be sold in Japan, with the rest for export. Europe takes 42.1 per cent of Japanese recorder exports, followed by the U.S. with 30 per cent and Asia with 17.8 per cent.

Why have the Japanese been so successful? They claim that it is due to their superior technology, the economies of mass production, and the absence of strong competition overseas.

They have no foreign licensees, and although both Sony and JVC say they would welcome them none has so far appeared.

Marketing is through OEM (original equipment manufacturer) or own-brand production for such U.S. electronics giants as RCA and Zenith and retailing chains such as Sears Roebuck. Sony markets Betamax through its extensive world network of subsidiaries while Matsushita sells units through Panasonic and Quasar outlets in the U.S.

Similar marketing patterns have been developed in Western Europe.

Only in Japan do both JVC and Sony have licensees. Toshiba and Sanyo have tied up with Sony Betamax, although Sanyo said recently that they would make some units for their sales agreement with Sears.

Matsushita (Victor's parent company), Hitachi and Mitsubishi Electric manufacture under a Victor VHS licence. But all this could change. Victor disclosed recently that it is having talks with Thorn-

Brandt of France and AEG-Telefunken of West Germany for possible video manufacturing projects in Europe.

Each partner would hold an equal 25 per cent share and output would be on a product-by-product basis.

First on the schedule is the production of recorders at the Berlin plant of AEG-Telefunken by next summer. Eventually, video cameras will be made in Paris and video disc recorders in Britain.

Initially, JVC will export key components such as video heads and cylinders, but other parts are to be made in Europe. Assembly and final adjustments, which are

JAPANESE TACTICS  
JOHN FUJII

crucial, will be left to European technicians. Joint production would enable large enough quantities to be sold to make the enterprise competitive. In the past, the number of recorders sold in each country was not great enough to justify production.

Start-up costs for video recorder manufacture are high. Matsushita alone has so far invested some \$350m in its three main factories in Japan. The Japanese have altogether invested about \$1.2bn.

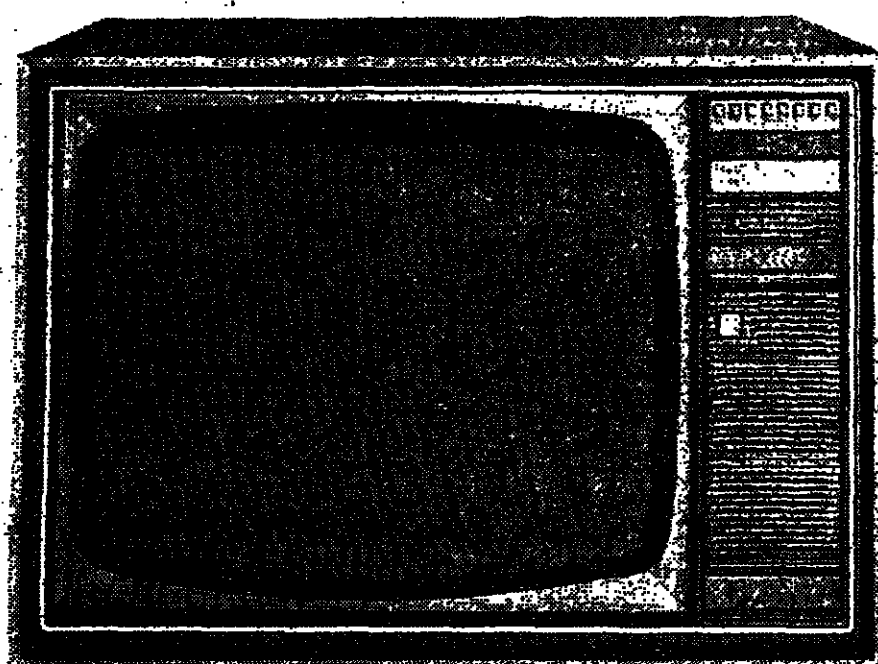
Victor has said that a joint manufacturing venture for its VHS system in North America is also possible. As for the video disc player, Victor has already proposed an international manufacturing arrangement.

Victor (JVC), Matsushita Electric, General Electric of the United States and Thorn-EMI in Britain have already signed an agreement to set up three VHD (very high density) joint ventures in the U.S. for the production of programmes, video discs and recording units.

But the most recent announcement from the group said that marketing will be delayed until next April in Japan, next June in the U.S. and June or July in Europe.

The reason for the delay is believed to be lack of suitable software, although the official JVC statement said that it was partly because the group had to wait until July to decide on the optimum formula for the resin base of the recording disc.

JVC said the delay enabled all the companies in the group "to ensure the necessary co-ordination of production, marketing and compatibility and interchangeability of recorders and discs in various locations."



## THE OTHER SIDE OF AN ORDINARY VIDEO CASSETTE.

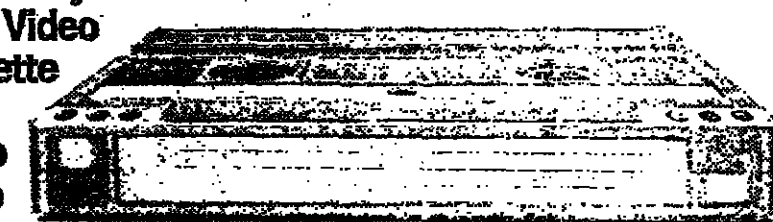


## THE OTHER SIDE OF A PHILIPS VIDEO 2000 CASSETTE.

The Philips VR2020 is not just another recorder. It's part of a totally new video system—Video 2000. It takes over where the others leave off.

Until today video cassettes lasted at best four hours.

The unique Video 2000 cassette actually flips over to give you up to 4 hours each side.



FOUR HOURS ONE SIDE. FOUR MORE THE OTHER.

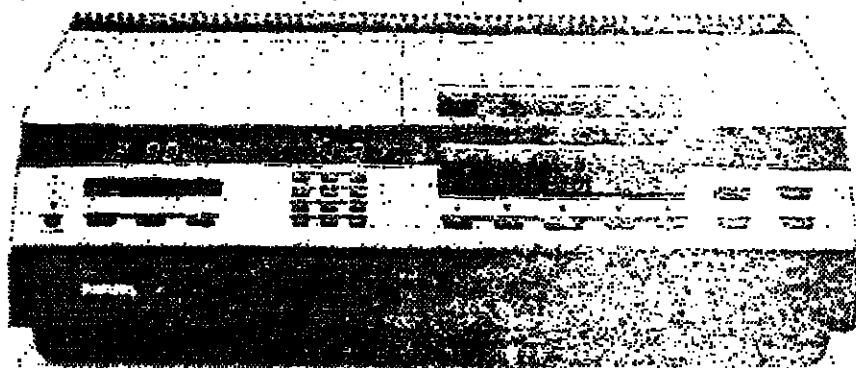
We've gone the whole way on picture quality too, with a totally new tracking system. Dynamic Track Following ensures a picture as accurate as the original. (Even when you're playing someone else's Video 2000 cassettes.)

The same goes for pre-recorded Video 2000 movies. The top video libraries have seen to that. (If you prefer making your own movies, the new Philips V200 video colour camera is ready, willing and able.)

Half an hour after installation you'll be able to play the VR2020 like an expert.

So why not try it out at your Philips dealer, and discover a whole new side to video recording.

## NOW THERE'S A VIDEO SYSTEM THAT DOESN'T DO THINGS BY HALVES.



VIDEO 2000. If you've been waiting for Video, it's arrived.

Philips Video. Simply years ahead.





## VIDEO IV

## Manufacturers fight for a share of the market

VIENNA and Nürnberg-Langwasser in West Germany are currently the only places in Europe where video-recorders are manufactured — by Philips and Grundig respectively.

But this picture of the European video market is likely to change soon. More and more consumer electronics manufacturers are examining the possibilities of starting video-recorder production in Europe.

Until recently many manufacturers were selling video-recorders, but instead of producing them most companies imported complete machines from Japan.

Companies such as Telefunken, Thomson-Brandt and Saba sold Japanese recorders under their own brand name. Others, including Fischer and Wega, imported Sony Betamax machines.

The only indigenous development and manufacture in Europe was by Philips and Grundig, which jointly developed the Video 2000 — the newest of the three competing systems in Europe.

But the rise in the value of the Yen and rapidly increasing labour costs in Japan now open new possibilities for competitive recorder manufacture in Europe. The Japanese realised that deals with European manufacturers were necessary if they were not to lose their grip on the lucrative European market.

JVC was the first Japanese company to form such a joint venture with Thorn-EMI, Thomson-Brandt and Telefunken (the consumer electronics subsidiary of AEG-Telefunken).

Under the terms of the agreement, video disc recorders will be made in the UK, video cameras in France and video cassette recorders in West Germany.

The importance of West German production to JVC becomes obvious in the light of the 400,000 or so video recorders sold in Germany last year,

which accounted for more than a third of total West European sales.

Recently it was made known that Blaupunkt, a Bosch subsidiary, has also started negotiations with Matsushita about rights to produce video cassette recorders. Although no plans are yet known about companies planning production of Betamax recorders, a Sony spokesman has said that this possibility should not be excluded.

Sony already has three major factories in France, West Germany and Britain.

But apart from the increased cost of Japanese manufactured units, other motives contribute to the need to collaborate with the Europeans rather than restrict their role to that of distributors.

Many European consumer electronics manufacturers have pressed repeatedly for measures to reduce Japanese imports. In West Germany with its traditional free-trade policy, antagonistic to any form of protectionism, import quotas are unlikely to be imposed.

But Austria permits no imports of Japanese colour television sets or recorders, thus opening its market — although small — to the Video 2000 system of Philips and Grundig. The threat of similar quotas in other European countries seems likely and co-operation with other manufacturers in Europe might offer the Japanese a long-term solution to this problem.

It is clear that the video boom is only just beginning. The market for recorders in Europe has just reached 1.5 per cent and most observers agree that the market will be saturated when the figure reaches 40 per cent. A recent IIT study forecast that VCR sales in Europe will reach 4m machines by 1986.

The importance of Europe is also emphasised by Makintosh International, the British market research bureau, whose

latest market survey indicates that last year 1.3m recorders were sold in Europe, compared with 800,000 in the U.S. and 915,000 in Japan.

The report predicts a steady 30 per cent annual growth rate for world video markets. These figures leave plenty of scope for European manufacturers to jump on the video band-wagon.

## EUROPEAN PRODUCTION

IAN JACOB

Philips and Grundig have both pinned their hopes on the Video 2000 system. For Philips, it is the second system for VCRs it has developed.

In 1972 the company introduced its VCR (Video Cassette Recording) system, the first video-recorder commercially available to the public. Being a pioneer in this field brought no advantages to Philips, however. Its first recorders were unreliable, and many of them were returned to the dealers before the end of the guarantee term.

By the time Philips had improved the machines, the system was outdated by the Japanese VHS and Betamax systems. In 1977 Philips decided to co-operate with Grundig in the development of an advanced system, which was to give them a strong foothold in Europe.

Besides a number of Philips subsidiaries, licensees for the system already include Siemens, Korting, Metz, SRE, Bang and Olufsen, and Zanussi. Since its launch last year the Video 2000 recorders have been well received. Last year Philips and Grundig sold about 250,000 recorders, giving them a market share of 18 per cent in Europe, according to Philips.

West Germany and the Netherlands, the homelands of Philips and Grundig, understandably claim high market shares for the Video 2000, but in France the system has yet to be introduced.

Mr W. den Toinder, vice-director of Philips' video division, recently emphasised that 14 per cent must be regarded as the lowest acceptable share for Philips. He said that the relatively small market share last year was due mainly to inadequate production caused by start-up problems at the company's Vienna plant.

This factory, planned for an initial annual production of 200,000 recorders, made only 140,000 units last year.

But Philips is now preparing for large-scale production. It estimates that its Vienna factory will achieve its maximum production of 400,000 this year. Philips is also converting one of its West German factories, at Krefeld, for recorder production.

Together with the planned output of 200,000 recorders from Grundig, Philips is hoping for a European market share of 30 per cent this year. Eventually, it hopes to capture around half the European market with the Video 2000 system.

The company is not limiting itself to Europe, however. Video 2000 recorders will be sold this year in the Middle East (an extremely important market, says Philips), Africa, Australia and parts of South America.

To remain competitive in world markets both Philips and Grundig emphasise the importance of co-operation. For Grundig, now market leader for recorders in West Germany, co-operation was the only answer to the problems the company was facing.

Grundig has had difficulties in the past few years. Its profits

fell 45 per cent in the 1979-80 financial year compared with 1978-79. This was attributed to strong competition from Japanese television manufacturers and saturation of the West German colour TV market. Since the West German Government would not impose import quotas, the company had to seek other means to secure continuity.

Rationalisation, co-operation and diversification to other products, notably recorders, have been the key words for Grundig, and in the video field the strategy proved successful.

Besides Philips (which owns 52.3 per cent of the equity of the holding company that controls 76.5 per cent of the shares of Grundig) Siemens, the West German electrical and electronics giant is also interested in a financial participation in Grundig.

Earlier this year it was made known that Siemens and Grundig had opened negotiations for a 24.5 per cent participation by Siemens in West Germany's largest consumer electronics concern. Siemens, which was the first licensee for the Video 2000 system, re-entered the consumer market in 1978 after leaving it in the early 1980s.

Although the outcome of the talks is still unknown, a Siemens participation would imply a strong consolidation of forces in the West German electronics industry and a considerable boost for the Video 2000 system.

Another strong member of the Video 200 front would have been AEG-Telefunken, which announced that it planned making its own recorders instead of importing them from JVC in Japan. About the same time, AEG-Telefunken said it had not yet decided on the system it would use for its European production — JVC's



Sony's large-screen video being demonstrated in Regent Street, London. The company already has audio manufacturing plants in Britain, France and Germany and is among Japanese manufacturers considering video equipment production in Europe.

VHS or Philips-Grundig's Video 2000.

At that time Philips claimed that its system offered the advantage to European manufacturers that its licensees could produce much of the device themselves. It accused the Japanese of forming joint ventures only for the purpose of finding European distributors and thus avoiding protectionist trade measures.

When the first talks between JVC, AEG-Telefunken, Thomson-EMI and Thomson-Brandt took place, a Philips official said: "When JVC says to Telefunken that it has plans to produce recorders jointly in West Berlin, I don't believe that. The Japanese recorders are not constructed to be assembled elsewhere."

Much to the regret of Philips, however, the talks continued and the joint venture was officially announced. AEG-Telefunken is currently preparing

its West Berlin plant to start production of VHS recorders in next May. When production begins Telefunken will use sub-assemblies from JVC, but towards the end of next year its own components will be used.

The West Berlin factory will be able to produce over 400,000 sets a year. When the deal with JVC was announced, the AEG-Telefunken chairman Herr Heinz Dürr stated that co-operation with the Japanese and with other European companies would permit cost-competitive mass-production for export, guaranteed quality, and advanced technology.

Thomson-Brandt, AEG-Telefunken and Thomson-EMI have demonstrated two points of vital interest to the European video industry. First, the prospects for European concerns as equipment suppliers for world video markets are not limited to collaboration with the Video 2000 producers.

Second, Japanese policy on joint video ventures with the Europeans left scope for Europe's own production of the equipment.

Especially in markets where Video 2000 still has a small share, such as France and the U.S., manufacturers of the VHS system have advantages. The main advantage is the wealth of software already available there for VHS and Betamax units.

In the Far East, Middle East and South America there are still valuable marketing opportunities for European manufacturers. JVC and Sony predict strong growth for their VHS and Betamax systems in world and European markets.

Another promising development is the video disc system. Here, too, there are these competing systems — Philips' LaserVision, RCA's SelectaVision and JVC's VHD — with a potentially vast market and possible Japanese-European alliances.

It's experience.  
The experience of our engineers, the experience of our research scientists, but above all the experience of the people on the factory floor.  
Our experience has always been that they are the most important of all. And we've yet to be proved wrong.

In the last four years alone, 3 million customers have made the Panasonic VHS video system the world's favourite.  
And the number is growing rapidly.  
Perhaps it's because we believe that the people who make the machines are as important as the people who buy them.

# The secret of the Panasonic success revealed.



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THE EXPERIENCE

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## Advent of another growth industry

AT SOME stage in the development of any new medium there comes a significant watershed, an event which signals the change from the new-born to the fully-fledged.

It is perhaps too early to say for certain, but for British videographers that moment probably occurred early in August 1981, when BBC Video sold 5,000 copies of its cassette of Royal Wedding highlights in its first week on the market (it was out within five days of the actual event).

It was only one of four video versions of the wedding and this is all the more remarkable as the event had been televised for all to record off-air in its entirety or as edited highlights. The Royal Wedding cassettes, however, also mark the beginning of a move away from video as merely a vehicle for old films and porn. Just over half the 2,500 titles now available in Britain are feature films, many of doubtful quality or obscurity but including a few hundred cinema classics. Porn has stabilised at about a fifth of the total.

Along with the success of a near-instant release videogram of a public event has come the entry of television broadcasters into video. First it was Thames Television, from whom nine Thames Video cassettes have come via Thorn EMI.

Most of the programmes are ready-made: David Bellamy's Botanic Man, two parts of The World at War series, the award-winning film The Naked Civil Servant, and the Royal Ballet in Swan Lake. But there are also three cassette compilations from the comedy series featuring Morecambe and Wise, Benny Hill and Kenny Everett, each under a "Best of..." heading.

BBC Video has also decided to edit material specially for video release, although problems of rights and royalty agreements with the unions have had an influence on this decision. Sometimes this is simply a matter of combining six parts of a series into a continuous sequence, as in Mr Smith's Vegetable Garden, or it can be a collection of great moments linked by a presenter, such as Harry Carpenter's Video Book of Sport.

The most interesting is undoubtedly the BBC's Videobook of British Garden Birds: over 70 segments of birds, with their calls and David Attenborough's comments on the soundtrack (separated when two audio channels are available) and text data on each, retrievable only by means of a decoder.

As yet there is no likelihood of vintage Tony Hancock or important documentary series like The Ascent of Man, Life on Earth or Ireland turning up on cassette.

Rather less than 1 per cent of current titles have been specially prepared for video. Among these, Rewind is remarkable since it has not only tried the novel approach of putting a one-hour magazine compilation

of humorous and general interest items on to a three-hour cassette — but claims to have disposed of 40,000 copies of the first edition, distributed through Thorn TV Rentals' Video at Home scheme. A second edition came out in August.

Another approach to original programmes is to seek sponsor interest. AEG-Telefunken has shipped in order to offer the cassette at a relatively low retail price. Thus, the former Nation-

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### THE PROGRAMME EXPLOSION

DAVID FISHER

vide presenter Michael Barratt has produced a cassette about dog care for Pedigree Petfoods, which sells for £19.50.

This may be important, at least as far as pricing is concerned, since the current average price of a feature film on video-cassette is around £35, while even shorter non-action subjects typically cost £25-£30.

But it is worth noting that, at the time of writing, Boots stores are offering pre-recorded cassettes in a sale at prices as low as £10.25; some Magnetic Video titles, which have list prices of £39.95, are offered at only £17.45.

There is clearly a degree of flexibility in pricing and profit margins which could be used to greater advantage in developing the market.

Much of the recent impetus has come from the multiple chain stores entering into agreements with companies which provide a complete packaged contract service, including the supply of cassettes, point-of-sale

displays, stock control and promotion.

At this stage of market development such schemes bring video to the attention of casual shoppers who, once hooked, might go on to specialised video shops. These are now starting to appear in many towns, often running rental libraries from which video-tape cassettes can be borrowed, typically for £5 for three days.

Although rental schemes limit the number of cassettes in circulation by maximising the use — and earning — of each cassette, there is still enough trade for one of the leading duplication houses, Kay Video, to report a throughput of about 125,000 cassettes a month on behalf of four of the leading distributors and several smaller ones.

The other videogram market leaders have been establishing their own cassette copying facilities on a smaller scale, but the total monthly output is believed to be around 300,000 copies.

The next stage of development will be the appearance of genuinely original videograms rather than "retreads" or compilations. In the most significant move yet in this direction, Thorn EMI Video Programmes has begun a £2.5m spending programme, though this is really in readiness for its joint introduction with JVC of the latter's VHD video-disc system next summer. The opportunity for cassette release as well will not be missed.

Indeed, discs rather than video-tape cassettes seem to be arousing more interest among producers who might make original contributions to video. Could cassettes prove to be a mere dress rehearsal for discs?

### If the image fits, project it

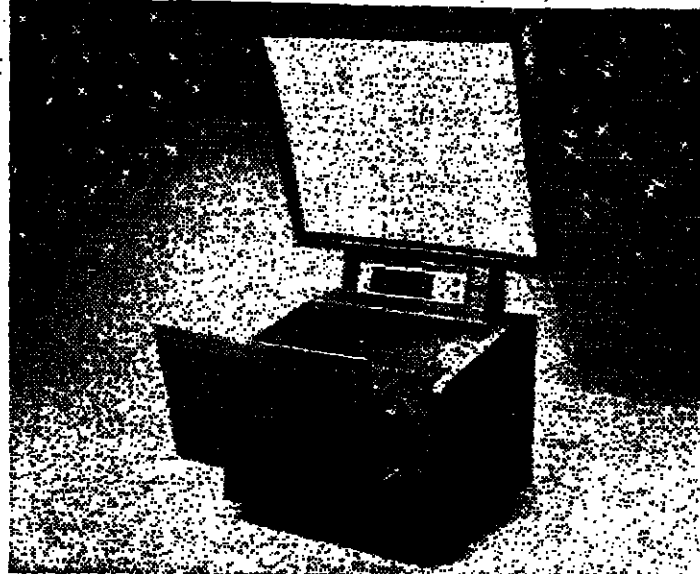
Our customers use Large screen video (typically 8ft x 6ft) successfully for:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>BUSINESS</li> <li>Internal Communications</li> <li>Conferences</li> <li>Information Dissemination</li> <li>Financial Management</li> <li>On-line</li> <li>Tele-conferencing</li> <li>Video Promotions</li> <li>Public Announcements</li> <li>Advertising</li> <li>Shopping Promotions</li> <li>Public Transport</li> <li>Conferences</li> <li>Exhibition Centres</li> <li>Simulation</li> <li>ENTERTAINMENT</li> <li>Discos, Bars, Restaurants</li> <li>Clubs, Churches etc.</li> </ul> | <ul style="list-style-type: none"> <li>COMPUTERS &amp; EDUCATION</li> <li>Software</li> <li>Teach, Demonstrate &amp; Sell</li> <li>On-line Training</li> <li>On-line</li> <li>On-line Disassembly</li> <li>Management Info.</li> <li>Financial Management</li> <li>On-line or Colour Data or Graphics</li> <li>Demonstration Centres</li> <li>Initiations</li> <li>Benchmark Monitors</li> <li>CAD/CAM Systems</li> <li>U.K. distributors for video</li> <li>Electronic, Acoustic and</li> <li>Novelty items of large screen projector</li> </ul> |
|--|---|

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The large screen video specialists  
The Old Power House, Church Lane, Aylesbury, Bucks HP8 4JL  
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# A mass market 'just around the corner'



A complete video projection unit (Rank Strand PTV 001W) including loudspeakers; the three colour beams are reflected from a mirror on to a high-gain screen 36 in wide

## Growing demand for big screen systems

THERE WAS a time when every science fiction description of glorious living in the future included "floor-to-ceiling" Tri-Vid entertainment at the press of a button.

Although we are still some way short of this, the increasing use of video for shows to larger audiences necessitates bigger pictures, and in today's conference centres big TV screen presentation, rather than multiple monitors, is required to take its place alongside film, slide and overhead projectors.

For many industrial applications a large VDU (visual display unit) for data and graphics is essential and may be linked directly to computer-generated information. The video theatre, in which tape takes the place of film, is not yet technically equal to the cinema, but in smaller entertainment and promotional

arc, must be used. In this case, the video signal modulates the output of the powerful lamp through a complex form of light valve as in the Swiss-made Eidophor and the General Electric (USA) PJ5000 projectors. But the complexity and cost of such equipment is so great that their use is restricted to special occasions with mass audiences.

While the triple-tube projector meets many of the needs for large audiences it is too expensive and too bulky for general domestic use. The ideal of the large, flat, self-contained TV screen, not involving optical projection, is still being sought. One system being developed employs colour phosphors as in regular cathode tubes, but the electron beam striking the faceplate is directed by electrostatic guide signals rather than through the holes of a shadow-mask.

This means that the electron gun emitting the beam can now be at the edge of the faceplate forming the screen instead of some distance behind it, as in normal tubes. The beam is bent through 90 degrees by the index guide signals to strike the phosphor dots in the right order and pattern.

With the electron gun at the side the whole depth behind the faceplate screen can be very shallow in proportion to its area and something like a flat picture-frame effect can be achieved. In the display proposed by RCA, a depth of only about 4 inches (10 cm) would be needed for a screen 40 inches by 30 inches, made up of 40 modular strips 30 inches high and 1 inch wide, each with its own electron gun and beam controls. In Japan, Sanyo is also reported to be working on a beam-index system for large screens.

At the other end of the scale, in the UK the flat-cathode tube used by Sinclair in its "pocket" TV employs the same principle for a screen less than 1 inch thick. It has also the advantage that the picture is viewed from the same side as the beam striking the phosphor surface, giving a much brighter image unimpeded by the thickness of the phosphor layer.

This combination of high brightness and small dimensions might well provide a new source for a very compact additive projector convenient for use in the home.

While big-screen video is important for large audiences seated at long viewing distances, it is by no means certain that merely a larger picture will be satisfactory for home viewing. A 40-inch image seen across the average living-room might merely leave the viewer four times more conscious of the TV line structure and lack of sharpness, particularly from a low-angle (i.e. non-broadcast quality) video-cassette.

A bigger picture as such may not be much of an attraction unless more detail can be seen, for it is the incoming video signal which is the limiting factor.

Big screens for home viewing would undoubtedly strengthen the demand for high-definition TV. Japanese developments are therefore especially interesting. Sony is developing a system with 1,125 lines (compared with 525/NTSC in the U.S. and 625/PAL in the UK); this can show a picture of wide-screen proportions, as in the cinema.

Work by the research group of the Japanese broadcasting organisation NHK indicates that an optimum picture width of about 55 inches (140 cm) with a 1,500-line image would provide a really striking advance in the subjective quality of viewing.

Such advances would require fundamental changes in TV broadcast standards and receivers. They can only be very long-term projects. But with advancing digital technology a high-definition video-disc might be developed to non-broadcast standards and could provide large-screen presentation of outstanding quality in the home, or even in the video theatre.

The writer is technical editor of "Screen Digest."

ONLY WHEN the Japanese entered the market in 1977 with VHS and Betamax did video recorders start to gain a real foothold in the consumer market.

Purchases or rentals have since at least doubled each year in Britain with over one million units believed to be in domestic use. Video has put new life into consumer electronics retailing across a wide range of outlets.

Yet there is no video hardware manufacturing in Britain or the United States, and only two companies — Philips and Grundig — in Continental Europe. The Japanese dominate European and American supply with an estimated 85 per cent share by 10 manufacturing companies.

Judging consumer preferences is difficult because demand exceeds supply. Units go into the shops and out again. But this is one area where Britain can claim a lead: its video recorder usage is the highest in the world. Sony's vision products co-ordinator, Mr David Hamid, attributes this partly to media publicity and partly to the British public's love of "the Box."

But it could have as much to do with the consumer electronics retail and rental trade. Only in Britain can home video equipment be bought from a network of small independent retailers and at least one rental shop to be found in almost every High Street.

Thorn-EMI (which owns Radio Rentals, DER, Multi-

broadcast and Focus) and Derwent have more than 1,000 outlets. To this must be added Thorn's Ferguson branded units, all supplied by the Victor Corporation (JVC) in Japan.

Video recorder users are now beginning to rationalise their needs. Once the sorcerers of consumer electronics, the video equipment manufacturers are being forced to direct their efforts away from high technology towards the customers' convenience and lower cost.

Although video is not yet a mass market product in the true sense—it is safe to say that the mass market is just around the corner—within the next year or so—for the right product.

Increasingly, consumers want all the facilities they are likely to need, and no more. Many retailers are saying that women are more important as home video users than was at first realised. They prefer the smooth touch-action controls of the advanced machines, but on an attractively styled and priced product.

According to Sony, still-frame and several other manipulative play functions are not used by most video consumers. Picture search—the Sony innovation which amounts to high-speed viewing while spooling tape—need not be in colour; and a high proportion of programmable timers are rarely used beyond a single setting.

These conclusions were drawn from a nationwide survey of 67 users. The result was the simpler low-cost C5, re-

ceived with an enthusiasm bordering on the absurd across the trade and in the video trade Press.

Other manufacturers, like VHS's Hitachi and Sharp together with Betamax's Toshiba, have recognised the

### CONSUMER REACTION

RICHARD DEAN

need for simpler machines to feed the lower and bigger end of the market.

Only recently, the VHS system inventors JVC launched such a product to supersede the vast collection of "old-fashioned" toggle-switch machines under its own or other brands which dominate the world's VHS equipment. Like its modern budget market contemporaries, the new HF7300 will sell for about £550 in most shops.

Relying heavily on its research and stripping away superfluous electronics, Sony has managed to undercut this figure by some £100 through discount sales. Only the old-style mechanical Sanyo Betamax can compete with this, at £399 or even less. It is currently contributing about 5 per cent to Betamax's ascending market share of 30 per cent or so.

According to a recent report

by Euromonitor, the VHS share has dwindled to a projected 60 per cent by the end of this year, nearly 10 per cent down on 1979 estimates. With the Philips-Grundig Video 2000 (four hours on each side) co-development now in regular supply, market shares for VHS and Beta are bound to slip, though VHS, with a more diverse brand loyalty, is likely to suffer most.

Video 2000, in particular Grundig's advanced Super model, has been well received by the trade, and initial consumer response shows a favourable reaction to the flip-over cassette.

Both Philips and Grundig are still pursuing a performance peak for their design. Grundig is expected to unveil a stereo machine, to interface with stereo broadcasting in West Germany, at this year's Berlin Funkausstellung, and may introduce its auto-reverse model which loses only one second of a programme at the switchover point.

Philips has its own up-market machine for introduction this Christmas, with "noiseless" picture search and other features. It will be interesting to see how the two European companies interpret the needs of the future mass market.

Pre-recorded video tapes are booming and may ultimately offer the biggest crock of video gold despite the tendency to "timeshift" broadcast television in most homes with

video. According to Euro-monitor, this secretive sector of the market generated some £25m last year, with double that expected by the end of this year.

The new industry offers fresh opportunities to programme producers, with presentation under the control of the television viewer for the first time. But at present the tape inventories are dominated by recycled features from the film companies, all of which are now committed to the video medium.

Tape rental, at about £5 to £6 for five days, is a key factor for this type of "software," which has a limited repeat viewing appeal.

Meanwhile, Catalyst Productions is offering a magazine-style range of "watch-and-wipe" tapes, sponsored by Thorn's Video At Home software distribution, and there are other areas of imaginative programming.

The scope is vast as BBC Enterprises' launch of "Video-book" tapes acknowledges. But there will be difficulties, such as the omni-present fear of piracy, negotiation of territorial video rights with unions (particularly on existing material commissioned for another medium), and the monitoring of royalty returns on rented material.

The film companies Paramount and Universal, trading through CIC in Britain, have added a royalty premium to software prices, after which the

dealer is free to rent or re-sell as he wishes.

United Artists rent on a voucher return principle (through Intervention in the UK) with a pre-credits warning and reward notice recorded on each copy. This promises a free blank cassette to the consumer who exposes a dealer believed to be guilty of not filling in the appropriate rental forms.

On the other hand, Magnet Video (a wholly-owned subsidiary of Twentieth Century-Fox) refuses to enter the rental market for fear of being exploited by the dealer.

Whatever the problems of the video software market, the tape companies are doing very well out of it. Britons are consuming prerecorded software units per video user faster than even the Americans, despite the larger range of American titles. A wider range of time shifting sources is the apparent reason. British duplicating houses are doing a roaring trade in English and some Continental tape copying, while the American-owned 3M-Scotch manufactures home video tape at Gorseinon, South Wales.

But the 3M-Scotch enterprise is the only video manufacturing in Britain at present. Thorn-EMI, which recently opened its own REW duplication facility in Wandsworth, London, is expected to begin making video recorders in Britain, initially using parts imported from Japan.

The writer is editor of "Television and Home Video."

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## VIDEO VI

# Impressive technical advances in industrial video systems

BROADCASTERS WERE once wont to dismiss the entire non-broadcast video industry as "Mickey Mouse."

But the mouse is now roaring, and though practitioners may still apply the epithet to particular operators, no one would belittle a booming industry whose technical and programming standards have moved so much closer to those of broadcasting.

Indeed, the gap between broadcast and non-broadcast practice has been more than bridged. There is now an overlap in standards and equipment, thanks to the substantial reduction in the size and cost of high-quality video equipment and the rising expectations of non-broadcast producers.

But, more impressively, the mouse has proved much nimbler in adopting new technology and its attendant working practices than the big cats of broadcasting, and it often seems to be leading the way.

While the current domestic video boom offers broadcasters a new market for old programmes—and for their creative talents—the advent of the first cheap non-broadcast videotape recorders some years ago, and even more the first industrial cassette machines, brought them substantial but less obvious benefit—easier access to their own programmes.

The advent of videotape made TV a less ephemeral medium. But when the only access to that recorded material was through booking expensive time on one of the scarce, broadcast-quality VTRs handling 3-inch tape, there was limited scope for a programme-maker to see his work before editing or to show it to channel bosses, critics, potential buyers or competition judges.

It was rather as though a film

director had to book the Odeon in Leicester Square to look at his rushes.

The arrival of smaller video machines in the executive suites and then in production offices made access much easier, allowing, for instance, a director to mull over his material carefully before editing.

That, combined with more advanced computer editing systems, made it more feasible to attempt more complex post-production on tape.

But industrial video recorders had a much more obvious impact when U.S. television engineers, seeking economic ways to meet journalistic demands for more immediate news coverage, seized on the portable U-matic recorder, designed for industrial use, and pressed it into service alongside specially developed portable cameras.

Electronic news-gathering (ENG) was thus born and quickly adopted by the American TV news networks.

ENG's acceptance in British broadcasting has been much slower, thanks to industrial disputes and also doubts about technical standards: apart from BBC and ITN network news, only half the ITV companies yet have an agreement.

As for those standards, Sony has responded to the use of its industrial equipment by moving energetically into broadcast equipment, and redesigning its U-matic system to produce a new "high band" format, offering higher broadcast quality from the same cassettes.

While broadcasters use this equipment to shoot brief news stories, many video operations like those of Barclays Bank or Spafax, or video companies like Infovision servicing industrial clients have long deployed the

technology of a single camera and cassette recorder to shoot whole programmes.

This practice is modelled not upon broadcast television's traditional multi-camera techniques, but the single-camera method of film-making.

The film methods preserves the advantages of setting up each shot individually while saving all the costs of film stock (which cannot be erased

## TECHNICAL INFLUENCE ON BROADCASTING

CHRISTOPHER GRIFFIN-BEALE

like tape) and processing to offset against the investment in video editing systems.

Although broadcasters will only accept "high-band" cassettes for news, they have recognised the notion of "electronic field production" (EFP) as a higher-quality parallel with ENG for other programmes, relying instead on portable VTRs with 1 inch tape. While these machines may be slightly heavier, and their editing back-up more expensive, this cannot explain the broadcasters' relative reluctance to adopt this film-like approach.

Most non-broadcast video operations, starting from scratch have been free to invest as they wanted; but broadcasters cannot write off their heavy investment in large factory-like studios designed for multi-camera operation or revise their crewing arrangements swiftly.

Freely from bricks and mortar, outside broadcast (OB) operations can be more easily adjusted to new techniques,

though most broadcasters' lightweight units still seem like scaled-down versions of the larger equipment, lacking the mobility of film assistants or existing single-camera video units in industrial video or broadcast-quality facilities.

In a recent article supporting the creative benefits of shooting on film rather than with multiple cameras in the studio, the playwright and director David Hare delivered a cogent argument for single-camera operation, rather than a bigger operation, as such even if he underestimated what can be achieved with traditional methods.

Although all this might not matter much to the viewer, TV administrators cannot simply write off such pleading as artistic self-indulgence. The creative compromises of multi-camera working may be a small price to pay for the economic advantages of producing so much TV in the existing way.

But the price seems less economic when the finished product must bear repeated viewings by customers who have paid hard cash for a videogram.

It is significant that the two areas where single-camera techniques have been most eagerly adopted for broadcast use have been advertising commercials and pop "promos" (the visual accompaniments commissioned by record companies for showing on "Top of the Pops" and similar shows).

Both kinds of material rely on facilities companies—whose survival depends upon remaining in the forefront of technological advance—and both can evade the strictest technical rules on originating formats which broadcasters apply to programming.

But the clients who commission this material share another

crucial factor with the producers of original video-cassette programmes, who hire small companies like OB Video to use just these techniques.

All these clients are directly concerned with the "bottom line" on a particular show in a way that broadcasters need not be; they are concerned about the quality of the product, but also the cost of that quality, and they clearly prefer these new techniques.

Many independent producers, collectively assured a bigger slice of the action on Channel 4, may well make the same judgement and deploy the same techniques as in the new channel's first major commission, PrimeTime's extended version of the RSC production of "Nicholas Nickleby."

The director, Jim Goddard, used his two electronic cameras as though he were working on film: each camera's output was taped independently and all editing decisions were deferred until later.

Broadcasting engineers' preservation of technical standards is not simply rigid conservatism; the TV picture must be able to withstand all the degradations of national distribution, and the relaxed approach of a few video operators might simply betray a lack of professionalism.

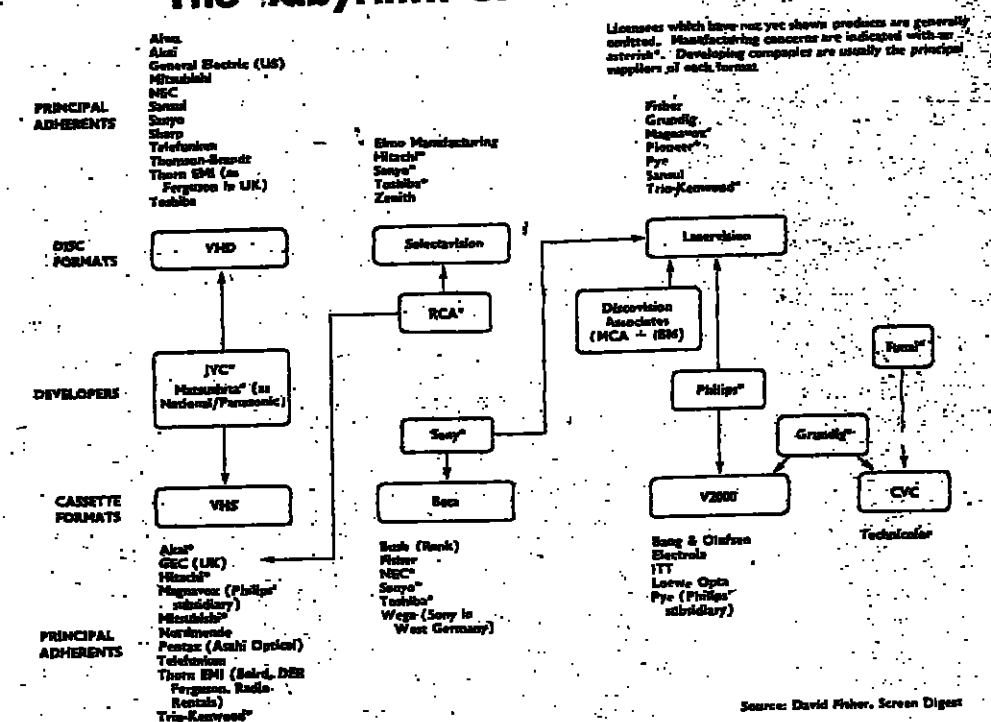
Broadcasters can still be justifiably proud of the excellent material they produce economically by conventional methods. But they must increasingly consider the advantages of the single-camera video techniques that non-broadcast operators have long been free to discover: the creative advantages of film at lower costs.

Christopher Griffin-Beale is deputy editor of the weekly trade paper *Broadcast*.



Electronic news-gathering has been quickly adopted by the American TV news networks. Above: members of an OB Video team on location in Switzerland

## The labyrinth of video names



# Publishers overcoming earlier suspicions

FOR OVER a decade the use of pre-recorded video tape as a means of distributing television programmes has been widely described within the embryonic industry as an extension of print publishing rather than by its more obvious affinity with broadcasting or the film industry.

An early American trade newsletter was called *The Video Publisher* and in 1971 some of the big names in European print publishing, such as Axel Springer and Hachette, were already active in trying to apply the primitive technology of that time towards creating a mass market for over-the-counter programmes.

It was the publishing fraternity which made up a fair proportion of the audiences for the state of conferences about some vague future possibilities offered by the "video revolution."

Inevitably it was the publishers who were most disillusioned by the failure of that future to materialise on cue. By 1974 the Thomson Organisation and Sweden's Kassele group were pulling out of the high-powered and exclusive, if somewhat ill-defined, International Publishers' Audiovisual Association, set up to exchange video information. It has since faded away altogether.

Only now that film distributors' video subsidiaries are beginning to demonstrate that a market exists for videograms are publishers overcoming their earlier suspicions—apart from those who kept their interests alive by publishing trade and consumer video magazines. A typical news stand in Britain could have seven or eight glossy monthlies on sale.

Circumstances have changed, of course. Not only are there a million video recorders in the UK—and 10m in the whole world—but videotex and other new "publishing" formats now exist. It has probably been this range of technological options which has caused publishers to reassess their attitudes to video.

Several newspaper companies have already gone into videotex as it provides the closest link with their traditional activities as publishers of rapidly evolving news stories and reference information.

News also forms the basis of one of the video-cassette programmes to have been made with newspaper backing: *This Year 1980* has been issued as the tentative start of an annual series of news reviews in a joint venture by the *Sunday Times* and Independent Television News.

The most stable Press venture into video so far is IPC's *MirrorVision*. IPC has been involved in video distribution for some time, mainly by buying up films predominantly on sports and motor racing. *MirrorVision* was set up a year ago to harness the creative talents of *Daily Mirror* writers like Keith Waterhouse and Marjorie Proops in presenting

video versions of their current work as columnists.

Most Press interest has remained fixed on broadcasting, however. Many independent local radio stations have newspaper groups among their shareholders, but commercial television remains the prime attraction world-wide. Rupert Murdoch's News Group has television interests in three continents, for example.

In Britain, Pearson Longman, proprietor of the *Financial*

## HOW PUBLISHERS ARE REACTING

DAVID FISHER

*Times* and the Westminster Press group has recently acquired a substantial stake in Yorkshire Television and has plans for more electronic media involvement in North America.

Generally the Press in the United States has paid more attention to videotex than videograms, but it can be only a matter of time before the larger conglomerates go into cassettes and discs. Yet Time Inc. recently decided to concentrate on providing cable television and videotex data services, despite having been active in non-action film production and distribution for some years. Nonetheless, broadcasting and cable could be a prelude to wider interests in all new media.

If newspaper and periodical publishers are cautious, however, book publishers must be either scared of video or, which is more likely, generally unable to find the resources for a sideways move into an equally risky market.

Contacts with book publishers in various branches of the trade indicate a growing interest in video possibilities, especially interactive video discs, but this has yet to turn into the sort of enthusiasm that will stimulate action.

The only company to have shown its hand significantly so far is Mitchell Beazley, now a subsidiary of American Express, which has substantial U.S. interests in exploring new electronic media such as TV-mail order and cashless trans-

actions over cable or telephone networks.

James Mitchell remains head of the publishing company he founded and has plans for video reference books and encyclopaedias making use initially of print artwork but ultimately going into all-electronic origination.

Collins, too, had similar plans to exploit its successful list of dictionaries and reference books, even forming a working relationship with EMI in 1977 (before the latter's absorption into Thorn EMI); but nothing has come of this.

A growing number of publishing houses are now owned by media conglomerates. The Granada group includes a flourishing general publishing concern, London Weekend Television owns Hutchinson, and Xerox—with its own video disc system under development—owns the specialist non-fiction publisher K. R. Bowker (with a strong cataloguing side), for example.

This multi-media approach among the potential market leaders may take the edge off one hope for video: that the publishers' traditionally catholic, eclectic interests might lead to video being treated with the flexibility of print, putting content before form and thus not insisting, for example, that all programmes must be in multiples of 30 minutes.

But if the diversification into video is taking place because of fears for the future of print, and a possible contraction of book and newspaper sales, then the atmosphere may not encourage the innovative, imaginative programming which is necessary to sustain and build the videogram market.

Whether video allows the publishing approach denied by broadcasting and films largely depends on the outlook and experience of the videogram maker. Audio recordings have not so far been regarded as publications, despite the variety of subjects and treatments which radio has shown to be possible.

The recent appearance of "talking book" cassettes in High Street stores may indicate the beginnings of a change in the general view of publishing which will find fuller expression in video.

The writer is editor of "Screen Digest".

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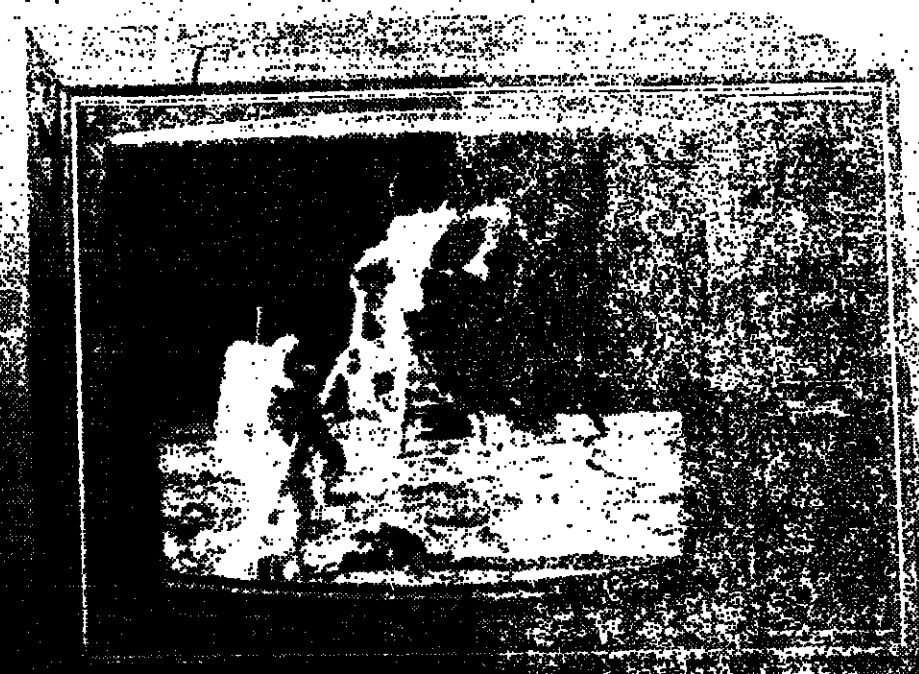
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Financial Times Monday September 12 1981



1969

# No competition.

At Sony we've always been proud of the way our design engineers have kept coming up with new ideas in the video field.

It happens with almost monotonous regularity, really. Perhaps it's habit forming.

In 1969 for example they invented U-matic, recognised within a few years as the world standard in professional video cassette systems.

A measure of that worldwide recognition is the fact that every manufacturer of professional video cassette recorders has adopted the Sony U-matic system. The system even won an Emmy award for services to television.

But, flattered though they were, our ideas men refused to rest on their laurels.

On the contrary, they recently came up with a

machine that could well be the future record and playback facility all others are judged against. The BVU 820P.

There simply isn't another machine quite like it. But that's just one example of innovations to video technology made by Sony.

On top of that we could mention the Trinitron television tube, still unbeatable for picture quality.

Or the first magnetic video-tape recording system. Or the world's first video cassette.

Or the first ceiling mounted video projector in the country.

And then there's...well, we could go on and on with our breakthroughs.

Come to think of it, we undoubtedly will.

**SONY** COMMERCIAL VIDEO  
We've thought of everything



1981

# Still no competition.







## VIDEO IX

## Full benefits yet to be realised



Former speedway rider Mike Coombs using video equipment, supplied by Radio Rental Contracts, as an aid in his technical training classes in motor cycle maintenance at the Slough headquarters of Kawasaki.

## Powerful and versatile aid in staff training

IF THE innovative climate of the 1980s is compared with that of the 1960s it is apparent that while the changes expected in education 20 years ago were often at odds with the environment, technology outside the educational system is now leaping ahead.

For example, it is reasonable to assume that with the current boom in home video, many more parents have more appreciation of its role in their children's education than they might have had of language laboratories or similar educational tools in the 1960s.

Then the major educational video activities were the closed-circuit television (CCTV) movement, mainly in higher education, and a limited number of Local Education Authority cable systems. Video production and distribution from a central studio around a school or college or a group of them was seen to be a practical proposition and also an effective instrument of education.

The limited range of equipment then available made studio production and the imitation of professional broadcasters the accepted style. The way in which both these two activities evolved, threw light on the problems that video encountered on how the increasing flexibility of its technology allowed some systems to adapt to changing circumstances for survival.

The expensive CCTV units established in universities and polytechnics had varying degrees of success. Some employed the worst kind of television teaching—the televised lecture—and learnt that there was "no significant difference" from conventional "in the flesh" methods.

Many producers recognised that to do their job satisfactorily they required the allegiance, support and confidence of the teaching staff, and they ran production courses to encourage teachers' involvement and to develop a realistic approach to television. All of them found that television is expensive.

The more successful units evolved into integrated services meeting the variety of needs of their academics; the studio was supplemented by more portable video equipment, and the materials became better organised and individualised.

Such diversification was essential not only for educational and administrative acceptability but necessary for their survival, as the solvent 1960s gave way to the more stringent 1970s.

The few local education authorities' cable services followed different paths—some to extinction, like the Glasgow

cable system set up in 1965 to serve more than 350 local schools.

The survivor was the Inner London Education Authority Service, which is now radically different from when it was established in 1965. In its early days its output, black-and-white programmes made by teachers

unrealistic to expect most students to have a video recorder at home.

Next year the Open University will start a trial video relay system in study centres, but the more desirable home-based solution, perhaps using video discs, will have to wait for some years.

Video-cassette recorders are revolutionising the distribution and use of schools television materials, releasing teachers from time constraints, limited channels, and centralised programmes, and solving many of the problems that have dogged ETV systems both in Britain and overseas.

While the medium has great potential, however, there are many practical difficulties, particularly in Third World countries, where poor maintenance, technically inexperienced teachers, inadequate administrative support and other factors can hinder its success.

The recently inaugurated Malaysian video-cassette project demonstrates some of these problems. Funded by a Japanese aid programme, the Educational Media Service placed video recorders in selected Malaysian schools, both for the distribution of key programmes, such as language materials for primary schools and science and mathematics for secondary schools, and for off-air recording in geographically remote areas.

The evaluation of the project emphasised the need for careful planning and administrative control, total support from the decision makers, and, not least, that low utilisation of ETV can be attributed to teachers failing to see any value in the programmes available to them.

Now the value of video is seen not just as a distribution medium but also, because of its more flexible production potential, as a means of bypassing the more expensive studio complex. Some county education authorities, such as Surrey with its County Media Resource Centre, are making "television programmes" productions with a portable single camera system to give a local dimension to the programmes at a cost comparable with other audio-visual methods.

An even more localised use of video is programme production within the schools. Once a school has acquired a recorder it is natural to wish to exploit its full capabilities by purchasing a video camera. At one level it is a solution to the problem of software shortage and as such has special value in areas such as language teaching. But video production in school can also be exploited in other ways, as a means of skills analysis or for observation.

The Schools Council project "Communication and Social Skills" is an example of the kind of educational benefit to be derived from giving children the use of video, to help develop to their communications skills, media awareness and visual literacy and also their co-operative and decision-making talents.

Unfortunately, such activities are still marginal, and although the communications environment is increasingly dominated by the electronic media education is still dominated by reading and written work.

The conventional curriculum emphasises the "teaching" of grammar, structure, appreciation and use of written English, but little attention is given to activities intended to develop a critical approach to television or to giving children opportunities to express themselves through the medium.

In these days of low education capitalisation allowances and demands for core curricula it is a question of priorities. It is easy to identify a wide range of roles for video in education both to extend and to replace traditional tools.

Although teachers could perhaps use video more often the barriers which prevent them from doing so—economic, administrative, and personal—are formidable. But it will be regrettable if educational services in Britain and overseas are not enabled to reap the full benefits of video as the available technology reaches still higher levels of efficiency and usefulness.

The writer is editor of "Training Digest."

RESEARCH HAS shown that employees like video training presentation because they are familiar with television, while trainers like video because of its versatility.

The extent to which it is becoming the primary audio-visual medium for industrial and commercial training is indicated by recent news of the extensive acquisition of video equipment by the National Westminster Bank (installations worth £2m) and by British Home Stores for installation in all its 120 shops throughout the UK.

Typical of the growing enthusiasm is the decision by Marks and Spencer to change over to video as its main audio-visual medium for staff training, replacing the previous mix of tape, slides and film. Using video equipment, the companies' trainers found they could organise sessions quickly and easily—at short notice if need be.

Many of Marks and Spencer's existing film and tape/slide programmes have been transferred to video, and its latest production, Personal Safety, a 12-minute video-cassette about mugging, was originated on video.

Rather than making a heavy investment in outright purchase, many companies (including Marks and Spencer and British Home Stores) have agreed a video equipment rental system with Granada TV Rental, Radio Rentals and other High Street or specialist firms—perhaps a wise move at a time of rapid technological advances.

Not only the larger companies are making use of rental schemes. In association with Granada TV Rental, the video club for hairdressers, TG Video, has put together a package of hardware and software. A 20-in colour TV receiver and a video recorder are available together with a choice of one-hour training tapes, enabling employers to train their staff in hairdressing techniques and latest styles in their own salons.

For the small company wishing to experiment with video in training, short-term rental deals of three days, extendable on a daily basis, for a portable colour video camera and lightweight recorder are now widely available.

Television viewing at home is associated with entertainment and for many people it is the sole or primary source of information and education in

their non-working hours. For this reason television stars such as Penelope Keith and John Cleese are employed in many programmes (video or film) to put across a training message.

As well as seeing favourite TV personalities in a training context, there is also the novelty of seeing oneself on the television screen. Videotaped role-playing exercises reveal to participants aspects of their behaviour and interaction with others which no other medium could capture in such a combination of truth and immediacy.

Selfridges uses just such a technique in its induction train-

ing. The industrial/educational (I/E) version of the laser based Philips system, which runs for up to 35 minutes a side under microprocessor control—to stop on particular frames, skip sections, go backwards and forwards at the user's command—General Motors has installed over 1,000 disc players in showrooms and work areas throughout the United States.

As well as customer promotion, the discs, made by DiscoVision Associates, hold sales training material. Although examples of the disc's branching program facility, when seen at the London Video 80 conference, were regarded by some delegates as "appallingly simplistic" (for example, General Motors factories make (a) soapflakes (b) fast foods (c) motor cars) the potential of this new weapon in the training technology arsenal was evident.

More recently, another American motor manufacturer—Ford—has also decided to instal optical video discs in dealers' showrooms. The company has bought 4,000 industrial players from Sony Video Products for installation in showrooms for sales and service training as well as for management communications and point-of-sale displays.

Provision for interactive video disc of after-sales training in computer programming has been launched by IBM's General Systems Division, using, like General Motors, discs made by DiscoVision (in which IBM has a half share). Prospective computer operators are given instruction at 36 Guided Learning Centers set up across the United States in system management and programming using video discs as the primary training medium.

Short modules, typically of five or six minutes' duration, can be retrieved at random and repeated continuously. The best use of video in computer training, according to IBM, is for introducing abstract concepts and generalities.

Training of computer staff by video-cassette is now well established in Britain, with complete training programmes for in-house use put out by companies such as BIS-Delta,



A section of the Distributive Industry Training Board's purpose-built video centre at Knutsford, Cheshire.

the National Computer Centre and Advanced Systems Incorporated.

ASI recently won a four-year contract to supply video-based study packages to local government, while BIS video courses have been adopted by American Express to train staff at its UK headquarters in Brighton in systems analysis and programming.

Video-cassettes are also expected to feature strongly in plans for Britain's proposed distance learning centre for technical education—the Open Tech—intended to open up broad training opportunities for adults, including the unemployed. Training programmes recorded on video-cassette will, in conjunction with other training materials and personal tutoring, provide complete courses at technician and related levels or flexible modules designed to update existing skills.

It has been suggested that existing resource centres, such as the Distributive Industry Training Board's purpose-built video centre at Knutsford, Cheshire, which houses a studio equipped with four colour cameras, three broadcast 2 ins RCA quad videotape recorders, full colour cyclorama and lighting grid, telecine, vision mixer and sound desk, could be utilised in preparing open learning material.

At present the video centre originates between eight and 12 new training programmes a year. They are made available in the industry on a hire or sale

basis. The centre also produces commissioned programmes for individual companies. In 1980-81, the DITB sold over 3,200 video programmes; while 161,000 people in 546 concerns were trained by means of DITB video programmes.

It is expected that video usage figures will be even higher in 1981-82.

When studio time permits, the video centre's technical facilities are rented to other industrial or commercial organisations. Past users include retail, wholesale and mail order companies, motor manufacturers and a trade union.

**Acceptability**

The distributive board believes that its launch of the STAR scheme grant in 1980-81 (worth up to £1,000 in the case of larger companies, enabling them to acquire DITB training aids up to that sum and to set it against the board's training levy) was a major factor in fostering the acceptability of video within the distribution industry.

At a time of tight training budgets, employers were given the opportunity to explore the potential of video as a training medium and, with the increasing availability and quality of video programmes, the incentive to invest in playback equipment.

With a sale price differential of £60 for a video-cassette or £210 for a 16 mm film version of the same 19-minute programme (Help Yourself, about security), the financial incentive is likely to be strong.

## MAGNETIC VIDEO'S SUCCESS STORY IS NOW AVAILABLE ON CASSETTE.

Film enthusiasts everywhere are becoming video tape enthusiasts thanks to the pioneering spirit of Magnetic Video, a 20th Century-Fox Company.

Magnetic Video's success began in the USA where we were the first major manufacturer and distributor of pre-recorded videocassettes.

Backed by the strength of one of Hollywood's greatest film studios, clear market leadership has been achieved—firstly in the US, and now in Europe.

The success story continues this side of the Atlantic with a massive UK investment programme well underway. At Perivale in West London, a purpose-built operations centre has been completed which includes the largest and most modern tape duplication facility outside the US.

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Always a step ahead, Magnetic Video was the first company to order a significant number of the new Video 2000 format machines to complement its existing VHS and Beta hardware.

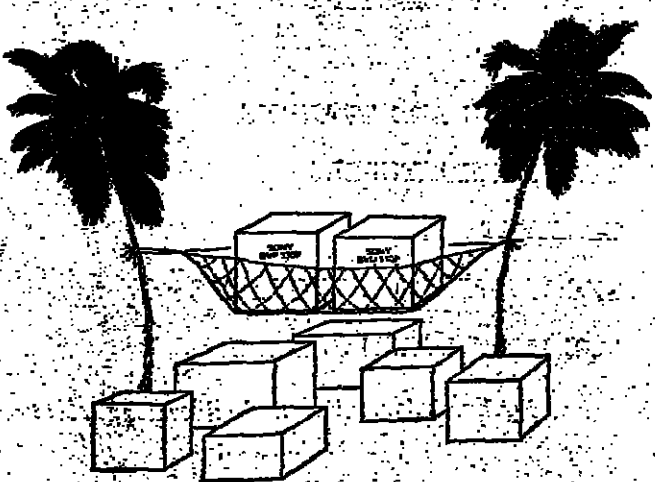
And you can be sure when videocassettes hit the UK market, Magnetic Video will be there.

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## VIDEO X

## Remarkable possibilities opening up



Mr Herbert Schlosser, RCA executive vice president, with some of the 100 "SelectaVision" video disc programmes introduced this year. They range from classic feature films to educational and children's programmes.

CONVERGENCE between technologies such as data-processing, telecommunications and video becomes possible when they all use a common language.

That common language is provided by the binary code, a combination of electrical impulses (represented by the digits 0 and 1) which is the first and only language that digital computers can speak.

Now, with the development of telephone systems which carry signals as digital impulses—British Telecom's System X is the first step in the UK in that direction—and digital video, remarkable possibilities are opening up.

Video has hitherto played a relatively small part in conventional data-processing. Some manufacturers have developed systems in which an image taken off a visual display terminal could be stored on videotape (as an analogue signal) to be used for purposes such as stock control; but this is a clumsy approach compared with

the increased flexibility now possible with digital technology. There are experiments in the training field involving the linking of video disc—where the images are stored in analogue form for domestic consumption—to microprocessors, making it possible to select particular parts of the stored image at high speed.

To begin with, video images were recorded on magnetic tape in analogue fashion, a technique which supports the video-cassette market today.

What is seen as the major development, however, is the introduction of video-disc by Philips in Europe and a number of other companies in the U.S. and Japan.

The Philips method uses a variable power laser to write information on a disc no bigger than a conventional long-playing record and retrieve that information for visual display on a cathode ray tube.

The disc consists of a sand-which in which a minute air-

space is trapped between two rounds of optical-quality glass. The inside surfaces of the air-space are coated with a fine layer of metal. Tellurium is now being investigated by Philips, RCA, Hitachi, Xerox, Thomson, CSE and others.

The laser head floats some 2 mm above the surface of the disc, and when on high power is used to burn a pattern of holes in the metal surface. A disc 14 inches in diameter could hold 10,000m such holes. It is claimed. On low power, the laser can detect the presence or absence of the holes.

For domestic use, the pattern of holes burned in the disc surface represents, in an analogue fashion, a frame-by-frame record of the images scanned. But the most exciting possibilities of video-disc become apparent when digital technologies are used.

Each hole—or the absence of a hole—represents a single binary digit, the equivalent of a single one or a zero. The storage capacity of such a disc is much greater than with conventional magnetic disc computer storage.

According to Mr Tony Moss, optical systems project manager at Philips' 1,000m characters can be stored on each side of a single 12 in diameter video-

disc. That means, in computer jargon, some 2,000 megabytes of storage per disc—or in the more familiar paper language of the office, some 500,000 A4 pages, if the input is direct from a word processor.

If the input is from a conventional document, which has to be digitised by passage through an electronic document reader, the number of A4 pages which can be stored falls to 50,000.

## CONVERGING TECHNOLOGIES

ALAN CAINE

The advantages of video-disc include its massive capacity compared to conventional magnetic media, its comparative resistance to dirt and grime in the environment—and thus to the "dreaded head crashes" which can destroy data stored on ordinary magnetic discs—and to rough handling, and its potentially low cost.

When they are launched, probably in 1983, data video-discs will be expensive, but the price could fall to around £50

a disc when production is well under way.

The major disadvantage compared with conventional disc storage is that the recording is permanent and cannot be rewritten or erased.

For many purposes, however, this is may be an advantage, especially for archiving in the office, while video disc technology is not expected to replace conventional computer memory but to supplement it.

The disc will store data, sound and pictures in a digitised form. Advanced location techniques will mean that any recorded information can be recalled quickly for display on a cathode ray tube setting as printed copy, or photographing as microfilm.

The office is the obvious place for such technology. Philips already has a "juke box" holding 64 discs connected to a document scanner and a display screen—a prototype of the video-disc-based "electronic filing cabinet"—at its Eindhoven research centre in Holland.

A major reason why video has played so little part up to now in data-processing is the width of wave-band needed to send video signals from one place to another.

That problem is gradually being resolved with the introduction of System X-like digital telephone systems and the International Subscriber Data Network.

Furthermore, the growth of satellite transmission and reception systems means that all the bandwidth necessary will soon be available for the whole spectrum of data transmission possibilities.

Information technologists are particularly excited about the possibility of using video television cables—CATV cabling, as it is called in the U.S.—to transmit a wide variety of digital information.

Such cabling is already in place where experiments in community television have been carried out. The technique offers one of the most attractive methods of setting up "local area networks," systems to interlink numbers of different types of computing devices on the same site.

Much of what is happening in video and computing is at a very early stage and the options are numerous. But the new advances which are possible through the development of video-disc techniques and new ways of transmitting binary data already show that by 1985 the whole video picture will have changed.

## Growing emphasis on production skills and technical facilities

VIDEO presentation has become an important instrument in community life, especially in the arts and in the propagation of social ideas.

At community level it has also become a participative medium, though in the past year there seems to have been a significant change to both approach and philosophy, at least in London. Notably, production values have improved with better equipment (U-matic colour recorders and portapacks), old notions of "access" to the media have been partly shed, and new modes of production introduced.

As in independent film production, independent community video has traditionally opposed the commercial way of doing things as hierarchical and therefore obstructive to meaningful communication between "producer" and "subject." It has therefore opposed specialism, and even the jobs on a production are often interchanged.

Community video workers have also consulted the relevant local community group on a production (previously, to the point of group vetting), obtain a group's trust, and try as hard as possible to present their point of view. Increasingly, this practice is becoming more important as social and racial tensions in community affairs increase.

Previously, community video never pretended to ape the mass media, and its notion of "access" was "oppositional" on all levels. It wanted to present the truth about local people expressed by local people to a local audience. The creative emphasis was very much the late 1960s idea that "anyone" could make a tape.

It was not only on naive production values that the earlier community video projects began to fail. There was effectively no distribution mechanism for "alternative" tapes, and many of the productions were purely parochial. But these problems of production and distribution are now being faced and a new emphasis has emerged within many of the projects.

There is now much more emphasis on the skills of production and access to the technical facilities of the production house, so that community video workers who produce the tapes may also provide the camera crew and carry the work through to final editing.

Running costs for the projects have been met by a variety of funding sources: the Arts Council, Greater London Arts Association (GLAA), local authority, or Inner-City Partnership. Costs of materials are usually topped up by one-off grants.

Albany Video, of Deptford, has been in being for a good many years. Its work now spans from productions like "Us Girls," probably its best known, based on a play about young girls' problems, and produced

portable colour equipment which it hires out for £50 per day.

The local community is no longer defined geographically but rather as a "community of interest." An approach from outside the borough would therefore not be turned down.

Oval Video has recently become involved in fictional productions. "Something has to be Done," made for the Race Relations Unit in Lambeth, and "Watch Out There's a Queer About," on "gays" and the law, using the format of a police training tape, scripted by a solicitor and shot by Oval Video workers, are a few examples.

Lack of editing facilities and no distribution structure previously hampered community

video development. But the presence in London of a low-cost, technically good editing facility for the past three years (Fantasy Factory Video) has helped community video makers to produce better quality tapes. Concord Films Council now distributes many of these community cassettes to its educational market.

Community video workers seem genuinely pleased about this process, and the new contributions they have made to the media. Perhaps in this move to produce technically better, less parochial productions on more general issues, community video could some day win the highest accolade of "access"—transmission by the BBC or ITV.

## COMMUNITY VIDEO PROJECTS

MAUREEN MCCUE

## A FINANCIAL TIMES SURVEY

## VIEWDATA

December 1 1981

The Financial Times proposes to publish a Survey on Viewdata in its issue of December 1 1981. The provisional editorial synopsis is set out below.

INTRODUCTION Viewdata, known outside Britain as Videotex, has been hailed as an important breakthrough in information technology. Its principal virtues are its simplicity, ease of use and low cost relative to conventional computer systems. International competition to supply systems is growing intense, though it is still unclear how big the world market will turn out to be.

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FINANCIAL TIMES  
EUROPE'S BUSINESS NEWSPAPER

The above contents and publication dates of Surveys in the Financial Times are subject to change at the discretion of the Editor.

## Why rent the very latest video technology from a company founded in 1884?

For nearly one hundred years, Currys have offered an unrivalled service to its customers. From the very first days of radio broadcasting, through the start of television and on to the age of the microchip, Currys have kept abreast of developments.

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Rank-Strand, the leading name in video communication and training, has a new video course available. This course is designed to help you understand the many uses of video in the workplace. It covers topics such as: video for training, video for communication, video for marketing, and video for research. The course is available in video cassette format, and can be viewed on a standard television set. For more information, contact Rank-Strand on 01-583 2282, or write to the address below.

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Community video work in Lewisham, South London. Albany Video of Deptford produces promotional tapes for theatre and musical groups, as well as original productions for community use. 'Oval Video of Lambeth is another well-established video project in South London.



## VIDEO XI

## Wide range of monitoring and surveillance systems

PUT A VIDEO replay unit into a works canteen and it can be a communications device. The staff will either accept the information it provides, dismiss it as propaganda, or simply ignore it.

But what happens if a video camera is installed in the works canteen? The chances are that shop stewards would be round to see the works manager within minutes.

No one doubts the potential ability of video to provide information when those watching the screen are prepared to concentrate on what it shows. So the video player can be harmless. But the video camera can only be a potential threat to the people looking into its lens.

Put another way, industrial television can be a great provider as well as a distributor of information.

Industrial video has many different names, such as "remote observation," which is unwieldy but descriptive, or "surveillance television" with its Big Brotherly connotations — but closed circuit television (CCTV for short) is basically used to watch events.

In security or surveillance applications, traffic, prison walls, factory areas or strong rooms can be watched. TV systems to watch crowds at football matches, check the running of tube trains (or, in one-man operations, allow the driver to see along the length of his train), and permit supermarket managers to see how busy their checkouts are have become commonplace.

The systems can range from very simple camera/monitor combinations (like those used as "entry-videos" by some security conscious householders) to complex installations using low-light and infrared cameras which can literally see in the dark.

The cameras are a small part of the system. They often could not function without weather-proof housings, remote controls and special housings to allow an operator hundreds of yards away to focus on a particular car, unknown letter or fence section.

Video cameras can go where men either cannot or do not want to go, acting as their eyes in hazardous or unfamiliar environments.

The nuclear power industry is an example. Reactor cores and other dangerously radioactive sections of power plants need to be constantly monitored. Special cameras have been developed to do the job.

North Sea oil exploration and production have acted as yet another stimulant to the development of new kinds of CCTV equipment. Sending down diving teams to make routine checks on sea-bed installations or run maintenance checks on rig installations is not only hazardous but is also extremely expensive.

Modern underwater CCTV cameras can be remotely-controlled, descend to greater depths than divers, stay there for long periods, and often see more through the muck than any human eyes.

Submersibles do not only mean under the sea. Internal pipe inspection uses special small-diameter video cameras to check drains or pipes of all

sizes and identify problems which could previously have been assessed only by digging up the roads.

In the medical profession a combination of special lenses, optical fibres and video cameras can be used for internal, endoscopic inspections of the human body.

But all this camera technology based on special TV camera tubes which are sensitive to various kinds of radiation — not just light, but heat or even X-rays — would be useless without the control systems that go with them. In surveillance

## INDUSTRIAL APPLICATIONS

PETER LLOYD

television the cost of video cameras often represents only a small part of the bill for the whole installation.

Picture-scanning systems can be made to ring bells and operate recorders whenever movement is sensed into the control system it is not movement, just a change in the information it's receiving. A whole series of cameras can be remotely or automatically controlled from a single gatehouse looking after miles of perimeter.

Time-lapse video-recorders can enable everything that happens in a factory shift to be compressed into only a few minutes of viewing time.

With CCTV applications the "entry-video" recorder is an important device. Instead of making it necessary for an engineer or researcher to watch an event, or series of events, in real time it speeds things up, it condenses the action by recording, for example, only one frame per second rather than the usual television frame rate of 25fps. Depending on the speed selected, which varies according to application, it can record hours of real-time events on short lengths of tape.

It gives the security official a still-frame picture of his "patch" once a second — more than enough for him to watch how someone got over a fence or see who was where when a crate disappeared.

A town planner trying to sort out traffic problems at a roundabout or in a busy city centre would have to watch the traffic in real time for days on end to see perceptible patterns emerging, but speeding up both time and motion exaggerates them and makes the patterns clearer.

If video can speed up time it can also slow it down. Industry might use condensed time to monitor slow processes or record control room activity during batch or continuous production. Extended or slowed down time helps engineers and designers to understand high-speed events.

High-speed cinematography has been a research and development device for decades. But it is expensive both to shoot (crew and lighting) and to produce (film stock, processing and editing). Time delays are common since one cannot see what was taken until one gets the film back from the

laboratory, and mistakes are expensive.

Video offers cheap and re-usable tapes, instant pictures, the possibility to use dim light, and portability. But until recently film has held its own, largely because it offered high speeds, up to 12,000 frames per second.

Action could be slowed down so that a second in real time would take over eight minutes to watch. Colour was also available, while the definition offered by video systems was inferior to that of 16mm film.

Polaroid introduced a high-speed instant-movie camera system last year in an attempt to fill this gap in the market. Now high-speed video has arrived. In the U.S. a system offering high-definition and colour at 2,000 fps has now been introduced by Spin Physics (a Kodak subsidiary).

It seems that it will not be long before engineers and designers can start taking new looks at how their machines work without paying fortunes to specialists.

Robot, paint-sprayers and welders are used increasingly in the car industry and computer-controlled machine tools have become common place in engineering. The next step will almost be certainly the use of machines instead of human hands and muscle to perform complex assembly-line operations.

Such advanced robots will be able to select component parts, check their quality and exact dimensions, place them correctly, and fit them together rapidly. To do all that they will have to use an artificial eye — the TV camera.

It will be a solid-state camera employing silicon chips instead of cathode ray tubes.

Electronic images can then be fed into a computer and in a few seconds the robot will "know" what it has picked up, which way it is facing and whether it is the correct size.

Solid-state television cameras are already here (Matsushita, Sony, Hitachi, RCA and Marconi all have them) and so are the computer systems which allow robots to use them.

General Electric, for example, markets a range of equipment called Optimation which allows parts to be inspected at up to 300 units/minute without touching them. It not only identifies the parts but checks their tolerances and decides whether they are up to the required standard — all this from a camera only 6 in wide and a control cabinet 30 in high, 20 in wide and 9 in deep.

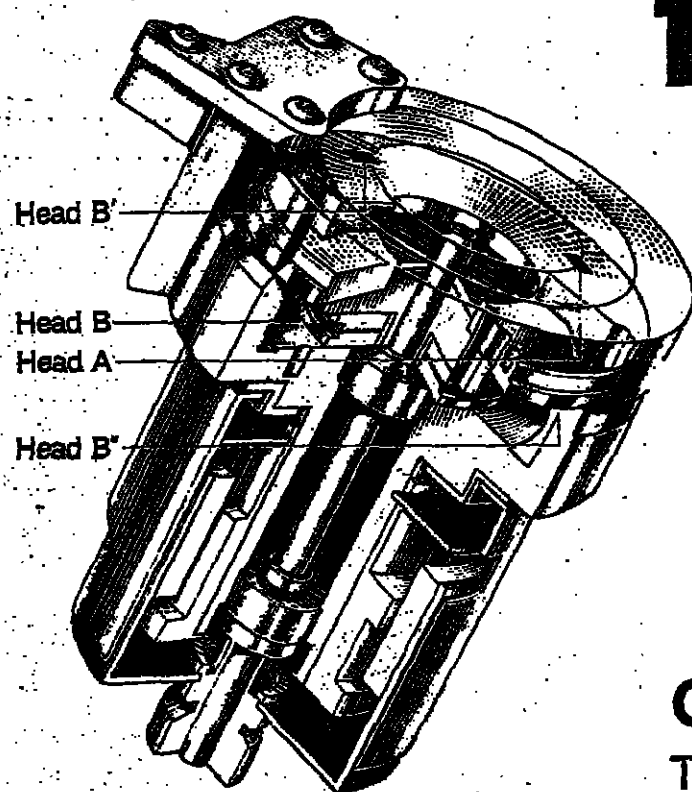
Video technology is already here for industry to use. If a computer wants something special for a particular application, video technology can provide it.

The writer is editor of "Audio Visual" magazine.



One of the many industrial security applications of video — remote observation by closed-circuit TV with cameras that can see in the dark. In this instance, a motion-sensitive control system has triggered a monitor and recorder to reveal an intruder scaling a fence

# Only Toshiba offers you clearest video tape reproduction at any speed. Our four heads make the difference.



By adding two extra heads (B' and B') to the usual two-head (A and B) design, Toshiba eliminates the cross A/B signal pick-up during slow motion and freeze-framing which causes vibration and noise-bar distortion. The result — only the B signal is read, and you get a picture as perfect as a still-life.

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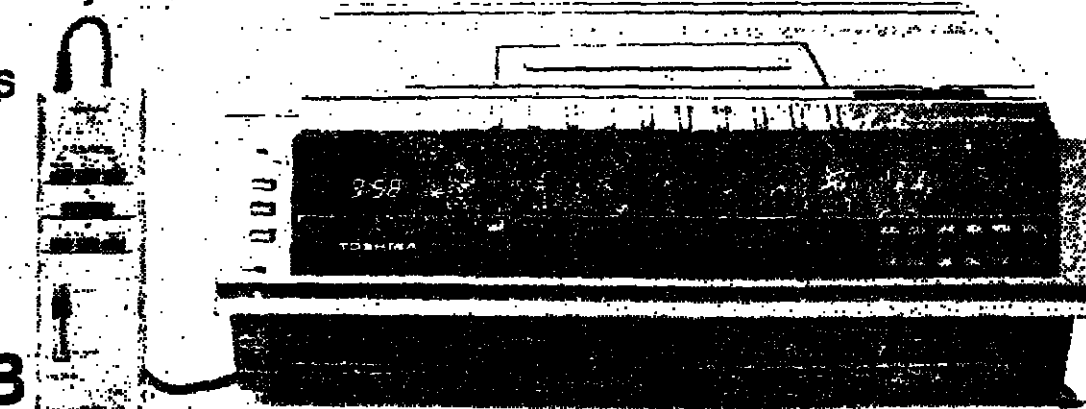
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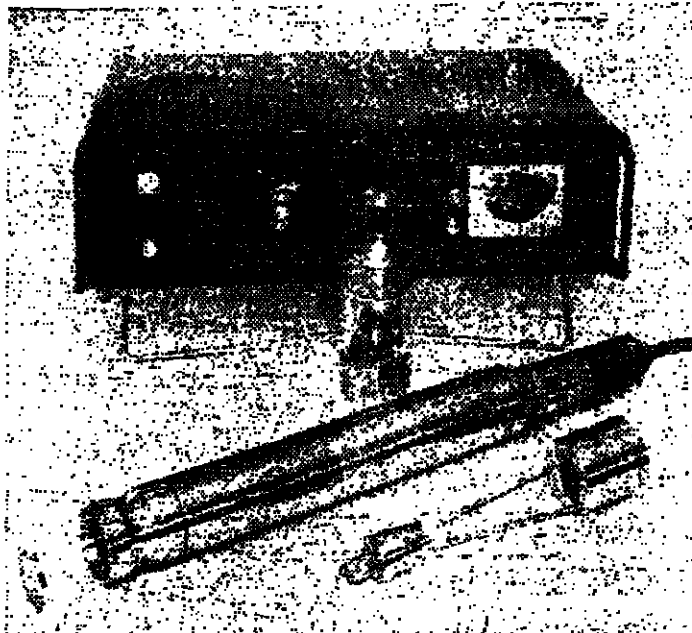
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# TOSHIBA



Monitoring processes at a Fiat foundry. The central control room can watch events in many areas of the plant. Some factories also use time-lapse video-recorders which record activities in every shift — compressed into only a few minutes of viewing time



A specialised camera system for pipe inspection — complete with lighting and remote control facilities — produced by Rees Instruments



## VIDEO XII

## Much scope for further development

VIDEO DISCS and personal computers are made for each other. There is every indication that the video disc will dominate home video in the 1980s and that the computer revolution will continue to change significantly the ways in which individuals and companies obtain information.

Basically, discs and computers are storage and retrieval media. Discs can play back movies, but programs made specifically for the capacity of the disc (freeze frame, random frame access, and dual channel audio) are more analogous to books, with chapters, segments, indices, appendices and so on.

Then there are computers. Thanks to the low-cost microprocessor, computing is now widely available to the private citizen. The personal computer is by definition portable and fits nicely on a desk top. "If you can't lift it, it's not a personal computer," says Byte Magazine, a leading journal concerned with personal computers.

Because of intense competition in the semi-conductor industry the personal computer is one of the few consumer devices that is actually coming down in price—on average 25 per cent per year—while going up in speed and storage capacity.

Several interfaces, or common bond-ries, between video-discs and computers have so far been developed by research and development facilities in universities and private companies, small and large, and there is growing support for this sort of activity from the major video-disc and computer manufacturers, world-wide. But why should companies as big as IBM, American Express or American Telephone and Telegraph (Bell Labs) want to connect a video-disc to a computer?

Two reasons: first, the video-disc (in its basic version) is the most densely packed storage medium in existence, more than 100m bits per side—one disc can hold every computer program ever written; second, the disc is a multi-media storage device. Not only can a video-disc store massive amounts of digital information but it can also play back motion pictures, photographic images and bilingual audio information.

Every document in the British Museum, for example, could easily be stored on video-discs occupying two office filing cabinets. When used as a peripheral to a personal computer the video-disc can provide vast amounts of information at low cost to small businesses,

research organisations, schools and the home.

Apart from the attractive prices, a marriage of video-disc technology and personal computer technology could provide the most powerful "information machine" ever known.

Video-disc technology, as well as microcomputer technology,

THE LINK-UP  
WITH COMPUTERS

ROD DAYNES

provides a means for interaction between man and machine. Interaction is dialogue, and dialogue is sharing information, while the sharing of information is essential to learning.

Some video-disc players are more capable of interaction than others. For example, the Philips and VHS consumer players can only access specific still frames with approximate manual accuracy, but more advanced versions of some video-disc players can directly access any given frame precisely and quickly. The Thomson, DVA, and Sony optical players are programmable, but the Philips and VHS players are not.

But these players are much less expensive than the Thomson, DVA, and Sony players. To simplify matching target populations with player capabilities, researchers at the University of Nebraska categorised three levels of video-disc player "intelligence".

A consumer model optical video-disc player, such as the Philips, Pioneer, or VHS with limited memory and no processing power.

An educational / industrial model video-disc player, such as the Sony, Thomson, or DVA 7820 with the capabilities of the consumer model plus an on-board programmable memory;

and

Either consumer or educational/industrial model interfaced to a personal computer.

There is also a "level zero" in this classification that would include players having no inherent capacity for freeze-frame, random access, etc., such as the RCA (capacitance) player. Several video-cassette machines designed for real time-only playback might also be included in "level zero".

The problem with interfacing the video-disc to a personal computer (or any computer for that matter) is that the means for

providing the common boundary does not readily exist and therefore has to be built.

Here is a brief account of some video-disc-personal computer interfaces designed and built at the University of Nebraska and elsewhere.

The simplest approach is to build a "black box" interface that gives control of the video-disc player to the computer. The box contains a standard parallel or serial interface that allows the computer to tell the video-disc to find a particular location, either a still frame or a motion sequence (with or without various combinations of audio), and play it.

The speed and accuracy needed to find these locations depends largely on the type of video-disc interfaced with the computer.

If a consumer player is used then "search time" will be anything from a split second to 30 seconds to locate a frame, but since most current consumer players are not designed to interface to the computer there is no way that the disc player can "tell" the computer that it has executed the com-

mand.

The computer must be programmed to "loop" or "mark time" until the disc has completed its task. This is not really a problem but it is not an efficient use of the computer. What is lost in efficiency can be gained in the low cost of the consumer players.

Using an educational/industrial player, however, will vastly decrease the "worst case" search time from 30 seconds to less than 1.5 seconds. This is remarkable, since the fastest video-tape machines must take 2 minutes to do the same job.

In addition, educational/industrial players are capable of reporting their status at all times to the computer, thus allowing the computer to execute other commands while the video-disc is "on-line." But the educational/industrial players cost more.

Several organisations have built interfaces of the "black box" type—the University of Nebraska, Utah State University, a company called New Media Graphics in Cambridge, Massachusetts, and leading computer and video-disc manufacturers

(New Media Graphics is selling its device for less than \$400).

They work equally well with consumer and educational/industrial players. But the main problem with these interfaces is that they cannot "overlay" the computer-generated text/graphics on to the video coming from the television. They require two screens: one for the video and another for the computer.

So far, only two organisations have publicly demonstrated an overlay interface: the University of Nebraska and the Massachusetts Institute of Technology.

By merging the text and graphics generated by the computer with the video from the television, a vast amount of visual display alternatives becomes possible. For example, the University of Nebraska has developed a computer-controlled "eleuth game" for deaf children that teaches problem-solving skills.

They are asked to help a grocer to solve a mystery (something is missing from his store) and the computer helps them by providing clues, background

information, and "expert" advice if the student digresses. As a more complex exercise, a low-cost flight trainer has also been developed using the same interface. It provides the experience of a simulated aircraft-landing using only the television, video-disc and the personal computer.

Research at Boeing Aerospace has shown that this form of flight training can both save money and maintain pilots' operational readiness. As opposed to "full fidelity" flight simulators, costing several millions of dollars, a video-disc/personal computer simulator, including the interface, could cost well under \$5,000.

Parallel developments of video-discs and personal computers should be watched closely in the years ahead. If the costs continue to fall and the ideas continue to cause such excitement as has been seen so far the common boundary may be found in schools, industry and the home sooner than we think.

The writer is director, Video-disc Design/Production Group, University of Nebraska, U.S.



NEW VIDEO RECORDER PLANT

PHILIPS is now completing a new 275m video recorder factory at Leisling, Vienna, on a 48-acre site. The plant is claimed to be the largest of its kind outside Japan and represents the Dutch company's largest single European investment. The complex is largely automated and capable of turning out 1,500 machines a day in the V2000 format; the factory is jointly developed with Grundig and employs 2,000 production staff. A new recorder being produced above, model VR2022, features picture search and still-frame with a steady picture. It will sell in Britain for £540. The original version has been restyled and renumbered, VR2021, and will cost £490.

## Strong demand for more lightweight systems

TAKE a ride on the Bluebell Railway in Sussex or any other of Britain's preserved steam lines and you will probably see at least one of an entirely new family of industrial antiquities.

These are the battery-powered colour videotape recorders now carried by such railway enthusiasts as have the money to buy them and the strength to carry them.

If this sounds an exaggeration, seek out an illicit copy of the BBC's 1980 Rainhill Trials commemoration and observe the profusion of portable VTRs in the public enclosures.

It should not be necessary in 1981 to argue the case for videotape over the more traditional photographic media: 35 mm prints and transparencies and Super 8 mm cine film. A full hour of colour television with lip-sync sound can be recorded and kept for just £3 per hour, less than the cost of a single roll of 20 processed 8mm prints.

So what condemns today's portable VTRs to early obsolescence? High initial outlay (around £1,400 is difficult to justify for a hobby), bulk and weight. The combined bulk and weight of camera and recorder,

let alone battery recharger, is comparable with three or four volumes of the Encyclopedia Britannica.

So-called "portable" VTRs currently on sale in Britain have the same two cassette formats which dominate the mainstream VTR market: the Sony Betamax and the JVC VHS, each supported by a group of licensee manufacturers.

No battery-powered versions of the Philips/Grundig Video Compact Cassette (VCC) have yet been introduced, though they are known to be under development.

Aware that the cassettes themselves are bulky—larger than many complete audio tape recorders now on sale—JVC is working on a miniature version of VHS little more than twice the volume of a standard audio cassette.

These "mini-VHS" cassettes will be fully compatible with existing VHS equipment (being placed in a separate housing to prevent shifting within the larger cassette recess). The same idea has been employed for many years by Sony to permit large and small versions of its industrial U-matic cassettes

though with a smaller variation in dimensions. A portable VTR based on the new JVC format, expected to appear in Japan and America next year, weighs 2.5 kg, or half the weight of the lightest VHS models now available. A further 2.5 kg minimum must be added for the camera.

At the broadcast end of the VTR market, two innovations announced earlier this year show the longer-term direction

PORTABLE  
RECORDERS

DAVID KIRK

of VTR development. JVC's Matsushita associate demonstrated a shoulder-held colour television camera with a built-on VTR mechanism, running VHS cassettes at six times the originally specified speed.

The resultant quality was near enough to the broadcast standard needed for electronic news-gathering that RCA is now marketing the system in the U.S.

as "Hawkeye." A picture in RCA's supporting sales literature claims that a Hawkeye cameraman can operate it while standing in a swimming pool. . . . a practice not to be recommended for operators of any mains-powered device.

Sony responded with an ENG camera and six-times-normal-speed Betamax video-cassette transport in a single housing (called Betacam) but neither design is small enough or light enough to appeal to domestic users since both are based on existing technology.

They are at best "stop-gap" devices pending the move from analogue to digital video recording and from valve to solid-state camera imagers.

Integrated camera/VTR units for the private user from Sony, Hitachi, Matsushita and Sanyo are expected to arrive in 1984. It is unrealistic to apply the term "miniature" to the prototypes so far shown, though their size and weight compare favourably with small 16 mm or large Super 8 mm cine cameras.

Attempts are being made by Japanese VTR manufacturers to agree on a single standard for integrated camera/VTR record-

ing, but the existence of VHS and Betamax itself suggests that the usual commercial rivalries will prevail.

Since VTR design involves many areas of compromise, any standard finally agreed upon can always be undercut in dimensions or price by a little more electronic noise reduction here or a fractionally shorter motor life there.

The main technical limitation of the portable VTRs, apart from size, is the unsatisfactory quality of "in-camera edits" occurring whenever a video recorder is stopped and restarted. Whereas a cine camera and projector share sprocket holes which are positioned when a film is first manufactured, the VTR records its own stabilising pulses parallel with the audio track, and these become irregularly spaced across a stop/start "join".

Depending on the equipment, one in two, or one in 10 such joins will be subjectively stable on playback but may prove troublesome if the resultant tape is copied on to second generation.

Sony has spoken of an editing

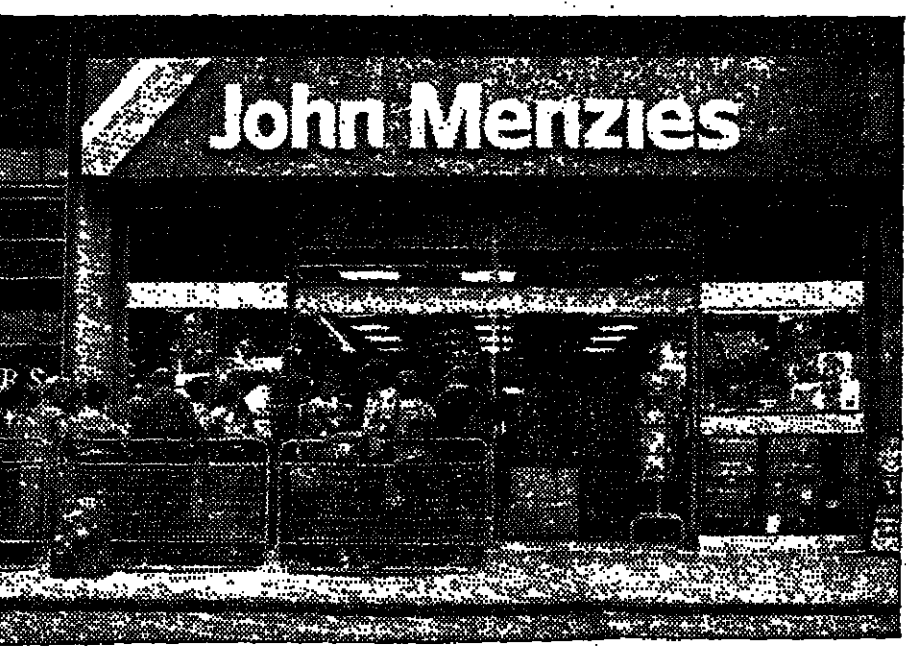
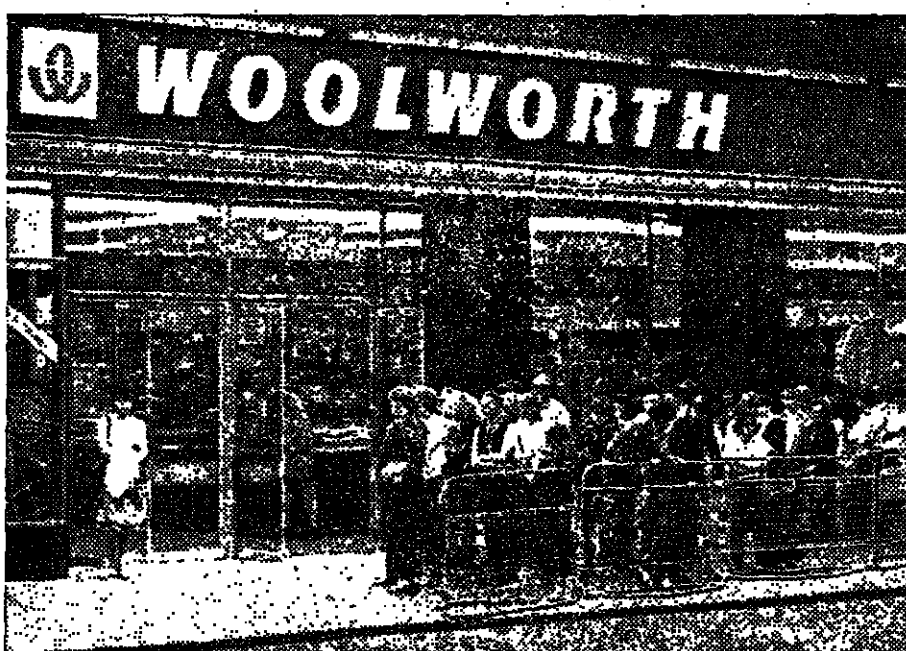
unit being supplied with its Video Movie system to allow scene-by-scene dubbing on to Betamax (or, presumably, any other format VCR).

It is simultaneously studying the possibility of a magnetic stills camera allowing frame-by-frame viewing through a domestic TV receiver. A prototype of this device, designated "Mavica" was demonstrated in Tokyo late in August and derives its name from Sony's Mavica (magnetic video card) video recorder tried as a prototype in 1974.

The card in question emerged from a flat storage envelope (22 cm by 15.7 cm) and was wrapped round a drum to be scanned by rotating heads. Details of "Mavica" are still awaited but it seems that the card will be much smaller than that of 1974, reflecting rapid progress in the production of magnetic storage media.

Meanwhile, before its promised launch in two years' time, the videography is waiting to record the family conquest of Snowdon will note with relief that there, too, is a working steam railway.

The writer is editor of "Video"

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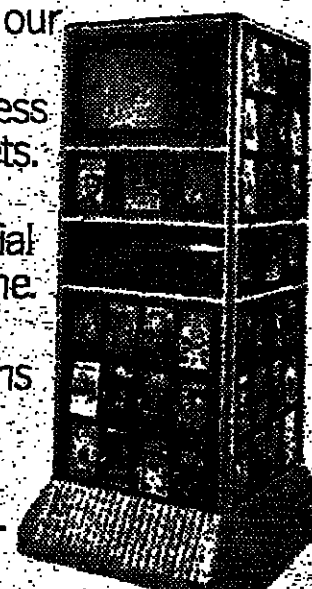
34 new titles including Flash Gordon, The Elephant Man, The Mirror Crack'd, The Long Good Friday, Life of Brian and The Jazz Singer will be

launched in October supported by national television and press advertising. Six new titles will be launched every month and special launches every Spring and Autumn will follow our major advertising campaigns.

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William Hall, Banking Correspondent, looks at the strength of Scottish feeling about the future of the Royal Bank of Scotland

# Scots gather to protect 'their bank'

MR JEREMY HARDIE, and his Monopolies and Mergers Commission (MMC) team investigating the proposed takeover of the Royal Bank of Scotland Group, had no sooner got back from taking evidence in Scotland, earlier this month, when they asked for a three-month extension for their inquiry (which they promptly received).

If there were ever any doubts that the investigation into the rival £500m bids by Standard Chartered Bank and the Hongkong and Shanghai Banking Corporation was one of the most testing tasks set the Commission, then their two-day trip to Edinburgh must have quickly dispelled them.

Demonstrators picketed the branches of the Royal Bank while the team took evidence at the Andrew House (home of the Scottish Office). And most of the organisations whose representatives were interviewed — they ranged from the Bank of Scotland to the Scottish National Party — argued that the Royal Bank would be better off staying independent, even though its directors are to merge with Standard Chartered Bank.

The MMC's task has been made no easier by the fact that many pillars of the Scottish financial and commercial establishment are saying nothing in public (or to the Commission) for fear of offending old friends connected with the Royal Bank in one way or another.

Mr P. E. G. Balfour, chairman of the Scottish Council (Industry and Development), is here to combat, as is Mr Robin Duthie, chairman of the Scottish Development Agency, since both are Royal Bank directors and have blessed the Standard Chartered bid. This has not prevented their respective agencies criticising the bids.

The leaders of the so-called "Charlotte Square Mafia", the group of fund managers and insurance companies clustered around Edinburgh's premier

square, are also keeping their heads down. Most of them have Royal Bank directors on their boards and their interests as shareholders in the Royal Bank have to be reconciled with any views they might hold about the importance of retaining an independent bank in Scotland.

The leaders of successful independent Scottish companies such as Ben Line, or elder statesmen of the banking com-

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● If the bank is to be taken over, a growing number of Scots would prefer Hongkong and Shanghai to Standard Chartered — the Royal Bank's chosen partner — because it promises to give greater autonomy to the Scottish bank.

Criticism of the planned takeover has come from all sides. Some of it is predictable, such as the Scottish National Party's views, but the Church of Scotland, the Scottish TUC and most of the major local Chambers of Commerce have also come out against the bid.

At an individual level, the campaign to keep the Royal Bank independent has been waged most vociferously by two men — Mr Ian Noble and Mr Peter de Vink, two Edinburgh entrepreneurs.

Noble is the Noble of Noble Grossart, the successful Scottish merchant bank. However, he parted company with the bank in the mid-1970s and went off to set up a Gaelic-speaking college on a Scottish island.

He has returned to active financial life, bombarding everyone from the Governor of the Bank of England downwards with his view that the takeover will damage Scotland.

De Vink, by contrast, is not a Scot but a Dutchman who joined Ivory and Sime, the Edinburgh fund managers, in the 1960s but now runs his own small business — Edinburgh Financial and General Holdings.

Precisely why de Vink feels so strongly about the loss of the Royal Bank's independence is unclear, but he has taken upon himself the job of master-minding much of the public campaign against the bid.

He admits that his constant criticism of Sir Michael Herries, the chairman, and the other Royal Bank directors, many of them former shooting partners, has strained friendships of long standing. He is conducting his campaign, he says, out of a sense of public duty and because so

many senior people in the Edinburgh financial community feel unable to speak out.

But he does not speak for all the financial community. Two former colleagues of Noble and de Vink for example, Angus Grossart of Noble Grossart, and Robert van Maasdik of Ivory and Sime, are understood not to be totally opposed to the Royal Bank takeover, although neither will say so in public.

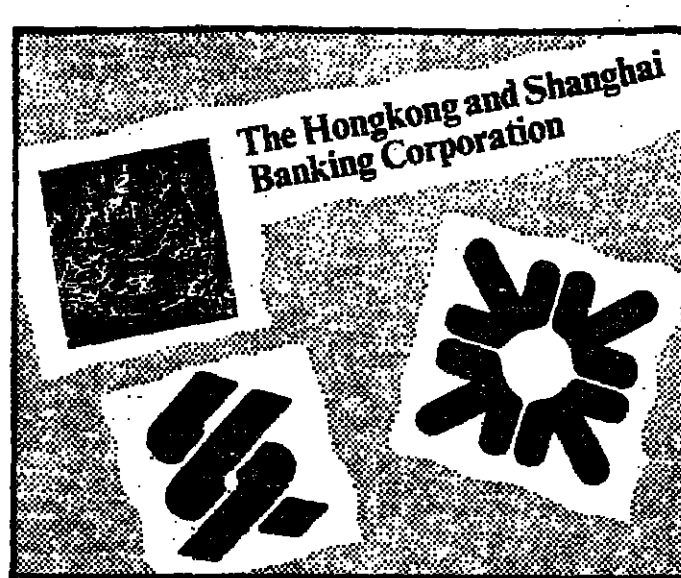
Noble and de Vink are both mavericks who do not fit easily into the Edinburgh financial scene. However, their case has been immeasurably strengthened by the support of Dr George Mathewson, a Scot who used to work for ICFG before taking over the chief executive's job at the Scottish Development Agency (SDA) last March.

Under Mathewson's direction the SDA has done its own equivalent of a Monopolies Commission report on the Royal Bank takeover. SDA staff visited North America and Hong Kong to put together a bulky dossier which argues strongly that both bids should be rejected and that the Royal Bank should remain independent.

The SDA evidence, together with the submission by the Fraser of Alander Institute (part of the University of Strathclyde), marshals the most authoritative arguments against the takeover and cannot be ignored by the MMC.

The case for keeping the Royal Bank independent has also won another ally in Mr Alex Fletcher, a 52-year-old accountant who is now the Scottish Industry Minister. Mr Fletcher has said privately that he thinks the Royal Bank's board has failed Scotland. That has irked Sir Michael, who let it be known that he thinks Lord Barber, Standard Chartered's chairman and a former Tory Chancellor, should use his influence to smooth the path of the merger.

Finally, the Bank of Scotland,



## Resisting the pull of London

THE BID for the Royal Bank of Scotland, which controls nearly half the Scottish banking system, has brought to a head years of unease about the way local control of Scotland's economy is being eroded.

The English insurance companies, which control the major composite Scottish insurance companies in the 1950s (except for General Accident in Perth) and would probably have done the same with the Scottish life insurance companies if most of them had not been mutualised.

As it is, National Nederlanden, a large Dutch insurance company, bought the Life Association of Scotland and Scottish Life managed to escape from Mr John Bentley, the Slater Walker acolyte, only by turning itself into a mutual company at the last moment. Most of the insurance companies which were taken over have lost their identities and are now nothing more than branches of their English parents.

The National Coal Board pension fund put the wind up the Edinburgh investment community in 1977 when it took over one of their largest investment trusts, British Investment Trust. More recently, Lloyds Bank has won control of Lloyds and Scottish, Britain's biggest independent finance house.

In the non-financial sector, the Glasgow-based Scottish and Universal Investments was taken over by Lloyds in 1979 and the latter now has designs on House of Fraser,

which is the subject of another MMC investigation. Several major Scottish companies, such as United Biscuits, have their effective headquarters in the South of England.

"There is a critical minimum size for the Scottish business community below which the gravitational pull of London becomes irresistible," says the Fraser of Alander Institute. "The departure of the Royal Bank would set in motion a chain of events which would bring that community very close to its minimum point."

In addition to the potential damage to the Scottish economy of a Royal Bank takeover, it has been argued that the loss of an independent bank could also have serious implications for the UK banking system.

Although only a tenth of the size of the English banks, the Scottish banks have contributed a significant amount to the development of the UK banking system. The Royal Bank pioneered overdrafts, branch banking was a Scottish invention and Scotland is the birthplace of savings banks.

More recently, the Scottish banks were the first to lead the clearing banks into the hire purchase field, despite the Bank of England's antagonism. Mr Ian Macdonald, the entrepreneurial general manager of the Commercial Bank of Scotland (now part of the Royal Bank), bought, in 1954, the Scottish Midland Guarantee Trust (the forerunner of Lloyds and Scottish), and his initiative has now been copied by all the big clearing banks.

Despite the inevitable safeguards, the fear is that the takeover of the Royal Bank will lead to the gradual loss of yet another independent decision-making unit in the UK banking system.

## Prices in the Isle of Dogs

From the Chairman, London Docklands Development Corporation.

Sir, — Mr Kenlock (September 9) gives the impression that enterprise zone status will have the effect of increasing industrial land values on the Isle of Dogs from £50,000 per acre to £250,000 per acre. I am prompted to comment in view of the fact that Anthony Harris picked up the same point on September 10.

— It may well be that in due course, small, fully serviced, sites within the EZ will be worth £250,000 per acre, but at present we have in mind £175,000 or so for larger areas of land. There are half a dozen adjacent industrial properties on the market (in varying states of repair) at asking prices which reflect site values varying between £100,000 and £200,000 per acre. There is certainly nothing available at £50,000 per acre. The point will no doubt come to be tested before the Land's Tribunal in due course, but in the meantime, I would estimate the uplift for enterprise zone status to be a factor of 50 per cent or so — not a factor of five as suggested by your correspondent.

We are now the planning authority for a wide area beyond the Isle of Dogs itself and therefore take a keen interest in the effects on activity, value and development which an enterprise zone will have on its close neighbours.

It is worth pointing out that only on September 9 did we receive Michael Heseltine's formal invitation to submit a scheme for an enterprise zone on the Isle of Dogs; various consultation procedures can now commence and it is unlikely that our zone will take statutory effect before early 1982. In the meantime some 350 acres of land have been vested in us and preliminary negotiations with various potential developers have commenced.

Nigel Brookes, West India House, Millwall Dock, E14.

## The gold standard

From Mr R. Kitzinger.  
Sir, — Ian Hargreaves' interesting report on the current U.S. debate on the gold standard (September 5) suffers from one serious defect: Hargreaves himself, and whoever was responsible for the presentation of the report, clearly does not believe a return to the gold standard is possible or desirable. Hence the sub-headline: "A flirtation with the past" in bold letters, and: "The U.S. search for 'sound money' barely visible in the grey band at the top." Hence also such phrases as: "The objections, it goes without saying, are manifold."

To be fair, Hargreaves answers the objections, although he doubts whether the monetary and budgetary balancing act can be achieved in two years — and "if it could be achieved, why would the country need to switch to gold anyway?" The answer to this question is, of course, that confidence in currencies cannot be restored without full convertibility.

As far as Britain is concerned, the desirability of an "exchange rate target" is now

## Letters to the Editor

widely recognised, but the European Monetary System, which it is advocated we should join (see Anthony Harris, September 3), does not provide adequate guidance — most of its members are still addicted to inflation, and joining it would mean throwing away the gains of the past two years. These gains are much greater than realised by those who have accepted the popular but mistaken notion that price indices measure inflation.

We should follow the debate in the U.S. closely, and if it leads to a sensible result, which is quite possible, judging by Hargreaves' reports — starting should be linked to the U.S. dollar, and thus indirectly to gold, permanently.

R. Kitzinger, 31, Oakwood Court, W14.

## Bookbinding is alive and well

From Angela James

Sir, — I must call your newspaper to task for its disservice that it has done to the bookbinding profession on two occasions recently.

The first is in the advertisement for your 1982 Diary, couched in a style better suited to cheap "deluxe" bindings of the classics in which it states: "the binding has been painstakingly carried out in Cornwall" where the skills of this ancient craft are still to be found. This would seem to imply that the craft of bookbinding is a dying one, surviving only in the far corners of the country. Quite the reverse is true. Designer Bookbinders is a society of 20 Fellows (precisely) and some 350 associate members, all of whom practise or are connected with bookbinding in some way. There are the numerous trade binders working in many towns and cities and a greater than ever number of students undertaking courses in art schools and technical colleges.

The second incidence of misleading information was in Janet Marsh's article on August 15 on facsimile children's books in which she stated: "Japanese binders have rediscovered and reproduced the techniques of blind-stamping, gold-leafing and the rich edge-gilding (in real gold leaf), that were characteristic of the Victorian book." In Britain (and indeed Europe as a whole) these skills have never been lost. I spend many days tooling and edge-gilding (yes, in real gold leaf) and I am only one among many who do.

I do not wish to labour the point, but it would be nice to think that you might one day be able to redress the impression left by these two statements and let your readers know that bookbinding has never been more alive and well.

Angela James, 16, South End, Osmotherley, Northallerton, North Yorkshire.

## The whaling issue

From Mr R. Yoshimura  
Sir, — I appreciated your editorial comments on whaling (July 27), which presented in a logical and balanced manner several important points for consideration. For your readers, despite the fact that the solution you offer to the problem — a reduction in the size of the

whaling industry through voluntary controls — differs from the Japanese position.

I always wonder why so many conservationist groups or governments are so reluctant to quote the conclusion of scientific committees of the IWC, despite the fact that the overwhelming bulk of the committee members are from non-whaling countries like the U.S. and the U.K. Many of the catch limits were unanimously decided by the scientific committee, and the consensus of the committee on the southern hemisphere make whales referred to in your editorial as "whale stocks" are in a robust condition. The majority view, based on joint international research, was reflected in the recommendation that the catch limit for the 1981/82 season should be increased from 7,072 to 10,267, which is 3 per cent of the total population. The catch limit, however, as adopted by the committee was 8,102.

I suspect that conservationist's concern over alleged uncertainties of the estimates is rooted less in worries about the scientific method of assessing stocks than in a distaste of whaling itself. I wish to point out in this connection that Japan as a whaling country is fully conscious of its special responsibility for the conservation and proper management of whale stocks, and that, for this reason, Japan will continue to do its best in the promotion of scientific research.

With respect to the method of killing, I should like to offer the following statistics. The average time taken by a great whale to die is about five minutes. Minke whales, which are much smaller in size, do not take longer to die. According to Japanese observations during the 1980/81 season, the average time taken by a minke whale to die was 3.36 minutes. Whenever a minke whale is not killed instantaneously, an electric lance is used to bring about a quick death. I should like to point out that vigorous efforts are being made by the Government of Japan and the industry to improve methods with a view to achieving instantaneous death, and that encouraging results are being obtained.

The real crux of the whaling issue is whether we Japanese must share the predominant Western view, that whaling is too inhumane to be allowed to continue.

R. Yoshimura (Counsellor), Embassy of Japan, 46 Grosvenor Street, W1.

## Value-dated transfers

From the International Cash Manager, Letraset

Sir, — In response to Mr Buser's inquiry (September 8) regarding the means of avoiding interest loss on funds in transit, I would suggest that the solution lies principally in "value-dating" transfers. Indeed, this is a well-established practice for international transfers involving a foreign exchange contract and can be usefully applied to smaller telegraphic transfers of domestic or foreign currency provided that adequate notice is given.

The term "value date" refers to the date when the sum transferred is to be credited to the beneficiary's bank account and debited to the remitter's. By specifying the required value date in the transfer instructions, the

remitter is largely protecting himself against any transfer delay. The practice of value-dating is not mystic and corporate treasury departments consider it an essential management tool to sound cash management. This is especially true of multi-national corporations for whom the sheer volume and frequency of payments abroad, both intra-group and external, demand that all sizeable transfers are effected by Telex or cable for good value, so that funds do not "float" within the banking system.

In my experience, both domestic banks and UK branches of principal foreign banks will strive to respect a client's value-dated request. This is of course facilitated when the remittance is made directly through established agents or correspondents in developed countries, but it is easy to ensure when the beneficiary is located in a country whose banking facilities are backward.

Occasionally, transfer hiccups will occur, often through no fault of the remitting bank. It is, therefore, not uncommon when funds are transmitted to remote areas, with more "relaxed" banking arrangements, for the credit to be physically entered some days after the value date albeit with the correct back-value adjustment for interest purposes.

S. J. S. Hampton, Letraset, 7, Apple Tree Yard, SW1.

## Onus on the driver

From Mr D. Birkett  
Sir, — Why in the Road Traffic Act (1930) was the motor vehicle used as the instrument to introduce compulsory third party motor insurance?

Surely the motor vehicle as such can do no damage unless driven so that it must be the driver who must assume responsibility for third party accidents as required under the Act, due to his or her negligent driving. Consequently should it not be the driver's responsibility to take out compulsory third party motor insurance and not merely the owner or registered keeper — which may be a limited company.

Dennis Birkett, 25, Midland Road, Bramhall, Cheshire.

## Source of the TV levy

From the Director of Finance, Independent Broadcasting Authority

Sir, — In the article "Not only viewing, but buying" (Sept 10) the response advertising on TV, Mike Townsin of Young and Rubicam is reported to have said: "In effect, the TV companies are getting their income from selling product direct and the IBA should find that questionable as they are getting their levy on air-time, not product." To put the record straight, the authority has always regarded the response element as part of the rate and is brought forward as advertising revenue for the purposes of determining the appropriate amount of additional payments (levy). All the TV contractors who operate these special rates are aware of this.

## GENERAL

UK: Mr James Prior, Employment Secretary, opens youth club headquarters, Leicester.

Mr Denis Healey, Mr John Silkin and Mr Tony Benn in debate on BBC TV Panorama programme.

Sir Adrian Cadbury, Aston University, Chancellor, opens international congress on metals engineering, Birmingham (to September 18).

Institution of Mechanical Engineers special address on the Voyager exploration of Saturn.

British Pharmaceutical Society conference opens, Sussex University (to September 17).

British Institute of Non-Destructive Testing conference opens, Cambridge (to September 16).

International Menswear Fair opens, Earls Court (to September 16).

International Boat Show opens, Southampton (to September 19). Exhibition of 50 years of Opera, Ballet and Drama opens, National Theatre, SE1 (to November 10).

Sir Ronald Gardiner-Thorne, Lord Mayor of London, visits London Metal Exchange, lunches with chairman; attends Billingsgate and Leadenhall Markets Committee dinner, Fishmongers Hall.

Overseas: European Parliament session opens, Strasbourg (to September 18).

EEC Foreign Ministers continue to work on Commission's mandate proposals, Brussels.

Norwegian general election. OFFICIAL STATISTICS. Department of Trade issues August provisional figures for retail sales.

COMPANY MEETINGS. See week's Financial Diary on page 4.

## Today's Events

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## COMPANY RESULTS

Final dividends: Chambers and Fargus, Grimmer Holdings, G. T. Japan Investment Trust, Murray Glenendon Investment Trust.

Interim dividend: C. D. Bynall, Low and Bonar, Merchants Trust, Pearson Longman, S. Pearson and Son.

LUNCHTIME MUSIC, London. Organ recital by Margaret Phillips, St. Lawrence Jewry, 1.0 pm. Organ recital by Jonathan Rennett, St. Michael's Cornhill, 1.0 pm. Organ recital by Simon Lindley, St. Anne and St. Agnes, 1.10 pm.

# New city offices

## £7.00 a foot

The city is Peterborough. Fifty minutes from King's Cross. The offices are in Aragon Court, a superb new building overlooking the cathedral.

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It must be the Peterborough Effect







## A gusher in the pipeline

### 6 month Euro-currency interest rates

The figure consists of three separate line graphs, each representing a different currency. All three graphs share a common x-axis representing time from August 1981 to September 1981. The y-axis for each graph represents the interest rate percentage.

- DOLLAR:** The y-axis ranges from 10.0% to 10.5%. The line shows high volatility, starting around 10.4%, dropping to a low of approximately 10.25% in mid-August, peaking at about 10.45% in late August, and then declining to around 10.3% by September.
- D-MARK:** The y-axis ranges from 12.00% to 13.00%. The line starts at 12.50%, fluctuates between 12.40% and 12.60% through mid-August, peaks at approximately 12.75% in late August, and then declines to about 12.50% by September.
- SWISS FRANC:** The y-axis ranges from 9.0% to 11.5%. The line starts at 10.5%, drops to a low of about 9.4% in mid-August, remains relatively flat until late August, and then rises sharply to approximately 11.0% by September.

DM foreign bonds within the

DM foreign bonds within the space of 8 days. The NatWest issue carries an 11 per cent coupon, which is a

record for a public offering in the DM market. It was so well received last week that it was increased in size from an original DM 100m on Wednesday to DM 125m on Friday.

was to have been this week, was accelerated to last Friday. The final price was set at 100½ to yield 10.96 per cent.

Last week's DM 150 five-year issue for Kontrollbank was also

While no one was anticipating a large number of new DM issues would now follow bankers in Frankfurt definitely felt more optimistic last week about the size of the West German current account deficit, which was around DM 29bn last year and might be as low as DM 23bn this year.

The issue of new DM foreign bonds has been frowned upon at times as the Bundesbank and finance ministry monitor the export of capital from West Germany. But there were indications last week that much of the buying was coming from outside of the country and it was thought by several bankers that under 15 per cent of the NatWest issue had been bought by Germans.

In Zurich, Swiss foreign bond prices firmed late last week after falling sharply on Monday and Tuesday. The week closed with prices down 4 points, but the strengthening Swiss franc encouraged the market as the week progressed.

# Headaches in Eastern Europe

airport authority of Rio de Janeiro, which is raising \$60m over eight years at a margin of 24 per cent through Morgan Grenfell and Libra.

The unusual feature is that

participants will have an option to purchase the credit on a 31-year maturity basis with a margin of only 11 per cent. Participations sold in this way will be taken back by the managers after they expire and held by them at the higher margin for the remainder of the credit's

Such a structure has become common for private sector Brazilian borrowers recently, but this is believed to be the first public sector credit to be arranged on this basis.

In Asia Korea Electric Company has awarded a \$90m, two tranche mandate to BA Asia, Sumitomo Finance and Wells Fargo. This involves a \$70m

10 year tranche at a margin of 1 per cent for the first eight years rising to 4 per cent thereafter and a \$20m. tax-spared tranche with a margin rising in

Denmark's export credit agency is raising \$150m through Citicorp in the form of a five year credit with a 2 per cent margin. The management group was reported to be virtually complete at the end of last week.

Confirmed on Friday was an increase to \$600m from \$500m in Argentina's latest Eurocredit, while European Banking Company was still making slow progress with its \$500m facility for Pemex.

AAA Utility .....	17.13	17.25
AA Industrial .....	16.25	16.37
30-day visible supply .....	7.4	8.1

Source: Solomon Bros., First Boston.

**BY DAVID LASCELLES**

## Calm before the storm?

to record lows on Tuesday (when the Treasury long bond briefly yielded 15 per cent), bond prices stabilised and even pulled back a bit. Short-term interest rates generally edged downwards.

But this may turn out to be no more than the calm before the storm. Wall Street is still filled with a dark sense of foreboding, and though few care to predict which of many gloom-laden scenarios will materialise, the chances of things actually getting better are rated very

One of the few certainties is that credit demand will remain strong, most of it at the short end of the market as the private sector pursues its hand-to-mouth existence waiting for in-

Treasury demands will be massive as well, no matter what progress Mr Reagan makes. According to projections by Salomon Brothers, the Treasury will have net new marketable borrowing needs of \$33bn between October and December.

... Politicians in Washington provided, one answer last week when they began to agitate for credit controls. Not surprisingly, this triggered a slight rally in the bond market because controls bring down in-

terest rates. But it was mainly speculative buying at the trading desk level. No one on Wall Street believes that credit controls will do any long-term good — rather the opposite. But clearly the markets will be measuring the political mood on Capitol Hill more closely than

The results would be the same: a steep drop in economic activity, widespread bankruptcies, and much pain.

The more critical the situation becomes, the stronger the pressure on the Federal Reserve

to ease its monetary policy. There were hopes at the end of last week that the Fed might trim the 4 per cent surcharge on its 14 per cent discount rate. But both Treasury and Fed officials were publicly underlining the need to keep a tight hold on money growth.

**FT INTERNATIONAL BOND SERVICE**[illegible]

### EUROBOND TURNOVER

(nominal value in \$m)

	Enro-
	Cedel clear
U.S. \$ bonds	
Other bonds	

---

\* No information available—previous day's price.  
† Only one market maker supplied a price.

**STRAIGHT BONDS:** The yield is the yield to redemption of the mid-price; the amount issued is in millions of currency units except for Yen bonds where it is in billions. Change on week=Change over price a week earlier.

**FLOATING RATE NOTES:** Denominated in dollars unless otherwise indicated. Coupon shown is minimum. C.dte=Date next coupon becomes effective. Spread=Margin above six-month offered rate (‡ three-month; § three-month rate) for U.S. dollars. C.cpn= The current coupon. C.yld= The current yield.

**CONVERTIBLE BONDS:** De-

ominated' in dollars unless otherwise indicated. Chg. day = Change on day. Cuv. date = First date for conversion into shares. Chr. price = Nominal amount of share as expressed in currency. Cur. price = Current price of share at conversion. Rate = Interest rate fixed at issue. Prem = Percentage premium of the current effective price of acquiring shares via the bond over the most recent price of the shares.

The last shows the 200 latest international bonds for which an adequate secondary market exists. The prices over the past week were supplied by: Kredietbank NV; Credit Commercial de France; Credit Lyonnais; Commerzbank AG; Deutsche Bank AG; Westdeutsche Landesbank AG; Societe Generale; Paribas Luxembourg SA; Banque Internationale Luxembourg; KfKreditbank Luxembourg; Algemeene Bank Nederland NV; Pierson, Heldring and Pierson; Credit Suisse/Swiss Credit Bank; Union Bank of Switzerland; Akroyd and Smithers; Bankers Trust Company; Citicorp; Comptoir d'Escompte de France (Securities); London; Citicorp International Bank; Daiwa Europe NV; Deltec Trading Company; EBC; First Chicago; Goldman Sachs International Corporation; Hambros Bank; IB International; Kidder Peabody International; Manufacturers Hanover; Merrill Lynch; Morgan Stanley International; Nikko Securities Company; Orion Royal Bank of Scotland; Brothers International; Montagu & Co.; Scandinavian Bank; Societe Generale Strauss Turnbull; Sumitomo Banking International; S. G. Warburg and Co.; Wood Gundy.

Closing prices on September 11

# CENTRAL BANK OF TURKEY

**US \$100,000,000**

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# LIBYAN ABAB FOREIGN BANK

REVIEWED BY

LIBYAN ARAB FOREIGN BANK	ARAB BANK FOR INVESTMENT AND FOREIGN TRADE
BANQUE INTERCONTINENTALE ARABE	ARAB BANKING CORPORATION
THE ARAB LIBYAN TUNISIAN BANK	ARAB TURKISH BANK
ARAB INTERNATIONAL BANK	BANCO ARABE ESPAÑOL
KUWAIT FOREIGN TRADING CONTRACTING & INVESTMENT CO. SAK	UNION DES BANQUES ARABES ET FRANCAISES — UBAF —

AGENT

**ARAB TURKISH BANK**

**FANTASY ARTIST**

## BANQUE INTERCONTINENTALE ARABE



**NEW YORK**[illegible]

1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100

[illegible]

1981		
High	Low	Stock
70	60	65
60	50	55
50	40	45
40	30	35
30	20	25
20	10	15
10	0	5
0	-10	-5
-10	-20	-15
-20	-30	-25
-30	-40	-35
-40	-50	-45
-50	-60	-55
-60	-70	-65
-70	-80	-75
-80	-90	-85
-90	-100	-95
-100	-110	-105
-110	-120	-115
-120	-130	-125
-130	-140	-135
-140	-150	-145
-150	-160	-155
-160	-170	-165
-170	-180	-175
-180	-190	-185
-190	-200	-195
-200	-210	-205
-210	-220	-215
-220	-230	-225
-230	-240	-235
-240	-250	-245
-250	-260	-255
-260	-270	-265
-270	-280	-275
-280	-290	-285
-290	-300	-295
-300	-310	-305
-310	-320	-315
-320	-330	-325
-330	-340	-335
-340	-350	-345
-350	-360	-355
-360	-370	-365
-370	-380	-375
-380	-390	-385
-390	-400	-395
-400	-410	-405
-410	-420	-415
-420	-430	-425
-430	-440	-435
-440	-450	-445
-450	-460	-455
-460	-470	-465
-470	-480	-475
-480	-490	-485
-490	-500	-495
-500	-510	-505
-510	-520	-515
-520	-530	-525
-530	-540	-535
-540	-550	-545
-550	-560	-555
-560	-570	-565
-570	-580	-575
-580	-590	-585
-590	-600	-595
-600	-610	-605
-610	-620	-615
-620	-630	-625
-630	-640	-635
-640	-650	-645
-650	-660	-655
-660	-670	-665
-670	-680	-675
-680	-690	-685
-690	-700	-695
-700	-710	-705
-710	-720	-715
-720	-730	-725
-730	-740	-735
-740	-750	-745
-750	-760	-755
-760	-770	-765
-770	-780	-775
-780	-790	-785
-790	-800	-795
-800	-810	-805
-810	-820	-815
-820	-830	-825
-830	-840	-835
-840	-850	-845
-850	-860	-855
-860	-870	-865
-870	-880	-875
-880	-890	-885
-890	-900	-895
-900	-910	-905
-910	-920	-915
-920	-930	-925
-930	-940	-935
-940	-950	-945
-950	-960	-955
-960	-970	-965
-970	-980	-975
-980	-990	-985
-990	-1000	-995

[illegible]

1981

[illegible]

100

INTERNATIONAL BUSINESS

## Indices

[illegible]

1. *Journal of the American Medical Association*, 277: 1005-1006, 1997.

	Sept. 11	Sept. 10	Sept. 9	Sept. 8		High	Low
<b>AUSTRALIA</b>							
All Ord. (1/1/80)	685.1	689.0	687.8	612.2	727.5 (9/4)	689.5 (10/9)	489.5 (10/9)
Metal & Minis (1/1/80)	666.1	636.2	661.5	606.9	725.2 (7/7)		
<b>AUSTRIA</b>							
Credit Aktien (2/1/82)	55.28	55.35	55.79	58.81	65.45 (5/7)	54.0 (27/5)	
<b>BELGIUM</b>							
Belgian SE (8/1/80)	72.57	74.01	72.85	75.52	85.15 (17/3)	69.55 (18/6)	
<b>DENMARK</b>							
Copenhagen SE (1/1/76)	115.56	114.50	115.75	115.24	119.80 (25/8)	95.88 (2/7)	
<b>FRANCE</b>							
CAO General (25/1/80)	—	85.0	85.4	85.1	119.5 (17/5)	77.5 (15/6)	70.5 (12/6)
Tel Tendance (3/1/1/80)	109.73	109.3	101.1	102.1	105.5 (10/9)	75.75 (2/6)	
<b>GERMANY</b>							
HAZ-Aktien (51 12/85)	229.23	229.07	228.80	229.55	245.47 (5/7)	215.98 (1/2)	208.54 (16/2)
Commerzbank(Dec1985)	705.35	705.7	709.1	707.2	749.5 (5/7)		
<b>HOLLAND</b>							
ANP-CSS General (18/70)	89.7	89.1	89.5	89.9	95.5 (20/5)	85.7 (9/1)	62.8 (2/1)
ANP-CSS Indust (18/70)	62.9	62.9	62.9	62.9	75.4 (22/5)		
<b>HONG KONG</b>							
Hong Sang Bank (5/1/76/4)	1555.8	1515.55	1518.40	1515.30	1610.25 (7/77)	1295.44 (11/8)	
<b>ITALY</b>							
Sanac Comm Int (1972)	205.56	205.55	215.81	219.25	252.02 (5/6)	195.44 (06/6)	
<b>Japan</b>							
Nikkei Average (1/16/80)	7545.47	7565.27	7525.17	7769.41	8018.14 (7/78)	6866.92 (11/8)	6586.92 (11/8)
Tokyo New SE (1/1/80)	669.03	670.15	675.20	674.03	693.92 (1/2)		
<b>NORWAY</b>							
Oslove SE (1/1/72)	195.87	199.15	198.01	194.93	145.72 (8/8)	110.84 (5/6)	
<b>SINGAPORE</b>							
Straits Times (1995)	551.15	545.59	544.49	554.15	575.25 (25/9)	515.25 (1/8)	
<b>SOUTH AFRICA</b>							
Gold 1985)	539.5	551.0	554.2	555.5	757.5 (7/1)	475.0 (5/7)	507.5 (5/7)
Industrial (1985)	577.08	574.7	583.5	582.5	574.5 (10/8)	567.2	
<b>SPAIN</b>							
Madrid SE (30/12/80)	142.05	143.15	145.55	145.75	145.15 (5/5)	100.44 (2/7)	
<b>SWEDEN</b>							
Jacobson & F. (1/1/65)	519.07	557.25	545.55	547.85	599.51 (10/8)	484.17 (29/1)	
<b>SWITZERLAND</b>							
SwissBankCorp. (51 19/50)	559.1	553.4	552.5	555.7	594.5 (2/4)	562.5 (5/6)	
<b>WORLD</b>							
Capital Intl. (1/1/70)	—	145.2	142.9	142.5	182.8 (2/3)	162.13(3/3)	

Base values of all indices are 100 except Australia All Ordinary and Metals 500; NYSE All Common — 50; Standard and Poors—10; and Toronto—1,000; last trading based on 1975. 3 Excluding bonds. 3 450 Industrials. 4 Closes if unavailable.

**AUSTRIA**

[illegible]

16.75	11.80	BHP.
0.40	0.16	Brun.
5.50	3.50	BRZ.

[illegible]

1000

[illegible]



# BUSINESSMAN'S DIARY

## UK TRADE FAIRS AND EXHIBITIONS

Date	Title	Venue
Current	MAB International Menswear Fair (01-404 0801) (until Sept 16)	Earls Court, Olympia
Sept 15-17	Industrial Environment Show (01-486 6399)	Nat. Exh. Cntr., Birmingham
Sept 15-22	International Plastics Exhibition-INTERPLAS (021-705 6707)	Aberdeen Town Hall, Earls Court
Sept 15-18	Offshore Europe '81 Exhibition and Conference (01-648 5831)	Olympia
Sept 15-26	Chelsea Antiques Fair (0727 56089)	Warwick
Sept 20-22	London Sports Trade Show (01-353 4000)	Ashford
Sept 21-26	International Garage Equipment Trade Exhibition GARAGEQUIP '81 (01-328 7000)	Exhibition Centre, Bristol
Sept 22-23	CCC Business Studies First National Credit Management Convention and Exhibition (021-643 3588)	Royal Lancaster Hotel, W2
Sept 22-24	Kent's Industry and Commerce Exhibition (01-729 0677)	Wembley Conference Centre
Sept 23-26	International Spirits and Liqueurs Trade (0272 28630)	Brno
Sept 23-25	Business Telecommunications Exhibition (08274 28211)	Zagreb
Sept 27-30	British International Footwear Fair (01-738 2071)	Singapore
Sept 29-Oct 2	British Philatelic Exhibition (083 483 433)	Moscow

## OVERSEAS TRADE FAIRS AND EXHIBITIONS

Current	Title	Venue
Current	International Engineering Fair (01-278 0281) (until Sept 17)	Brno
Current	International Autumn Fair (01-486 1951) (until Sept 20)	Zagreb
Sept 16-25	SE Asian Production Machinery and Engineering Equipment Exhibition (01-486 1951) (until Sept 18)	Singapore
Sept 16-20	International Watchmaking Equipment Exhibition (01-235 2423)	Moscow
Sept 19-20	International Trade Fair for Tableware, China, Glassware, Cutlery and Metalware Accessories (01-304 7116)	Sahburg Copenhagen
Sept 20-23	Scandinavian Fashion Week (01-540 1101)	Paris
Sept 20-23	Hardware Trade Fair (01-438 3964)	Mexico
Sept 21-25	International Fishing Exhibition (021-705 6707)	Hong Kong Singapore
Sept 22-24	Asian Security Seminar and Exhibition (021-705 6707)	Malmö
Sept 22-27	Asian Aerospace Exhibition (021-705 6707)	
Sept 27-30	International Fair for Cleaning and Flooring CLEANEXPO (01-486 1951)	

## BUSINESS AND MANAGEMENT CONFERENCES

Current	Title	Venue
Current	Seaside Academy Anatomy of Shipping (0233 353451) (until Sept 28)	Cambridge
Sept 15	CBI: Introducing single status employees - what's the difference? (01-379 7400)	Centre Point
Sept 15	The Henley Centre for Forecasting: Revitalise your market thinking (01-353 9961)	London Press Centre
Sept 16-17	Financial Times Euro - Korean Symposium (01-621 1355)	Brussels
Sept 17-18	The Economist International Oil Supplies and Stockpiling Conference (01-838 7000)	Hamburg
Sept 17	Freight Transport Association National Conference: Efficiency in the '80s (0892 26171)	Wembley Conference Centre
Sept 17	Institute of Directors: The financial and legal implications of management buy-outs (01-839 1233)	Pall Mall, SW1
Sept 21-23	DIBC UK/Tullett and Riley: Foreign exchange and money market dealing (01-758 5126)	Great Eastern Hotel, EC2
Sept 22	IPS: Materials management (0990 4371)	Europa Hotel, W1
Sept 22-24	IBM: Planning and control for data processing managers (01-564 5373)	Gatwick
Sept 23-26	International Bar Association: The future of London arbitration (01-830 6432)	Waldorf Hotel, WC1
Sept 24-25	FT Conference: The role of South East Asia in World Airline and Aerospace Development (01-621 1355)	Singapore
Sept 28-29	MSS Computer and Business Consultancy: Computer appreciation for managers/users (Worthing 34755)	Worthing
Sept 28-29	AMR International: Advanced executive secretaries (01-262 3732)	Helsinki
Sept 29	Dun and Bradstreet: More effective collection techniques for credit controllers and supervisors (01-247 4377)	Café Royal, W1
Sept 29-Oct 1	Thames Water: Disposal of Sludge to Sea (01-837 3300)	University College, London

Anyone wishing to attend any of the above events is advised to telephone the organisers to ensure that there has been no change in the details published.

## INSURANCE

### Prospects brighter for brokers abroad

BY JOHN MOORE

LATEST half year results from Sedgwick Group, the UK's largest insurance broker, suggest that the prospect for international UK brokers may be improving after a difficult three-year period.

Last week Sedgwick reported that its pre-tax profits for the six months ending June 30 were £29.1m compared with £22.9m in the comparable period in the previous year, a 27 per cent increase.

The figures were accompanied by optimistic statements about trading. All sectors of the group's business in the UK had made satisfactory progress and results from U.S. and Australia operations and other overseas operations had been encouraging.

The profit commission earned by Lloyd's underwriting agencies had shown an upward trend.

One of the more important factors influencing Sedgwick's and other brokers' performance is the movement of exchange rates. All of the quoted brokers in the UK earn sizeable proportions of their revenues in dollars while the bulk of their costs are incurred in sterling.

Sedgwick, which derives roughly 37 per cent of its revenues in U.S. and Canadian dollars, said that the weakening of the pound had increased the profits of overseas companies for the first half of the current financial year, but the movement had occurred "too late in the period to have had a great effect upon the foreign currency income of our UK subsidiaries".

The more favourable movement of exchange rates had left profits about £600,000 higher than they would have been if 1980 exchange rates had been used for conversion purposes.

At June 30 the sterling value of U.S. dollars was worth 22 per cent more than a year ago. But the average value of U.S. dollars, higher than in the first half of 1980, showed only a modest increase over the six-month period of around 4 per cent. Stockbrokers Kieffer and Aiken stress that Lloyd's brokers gain the greatest advantage from an effective devaluation of sterling for their overseas currency revenues going to their UK based subsidiaries on a day-to-day basis.

Since June 30 the pound has

shown further weakness against the dollar, standing at around \$1.80 compared with an end June rate of \$2.36. Most analysts are expecting those brokers with a high proportion of earnings in dollars to show significant benefits from currency movements in the second half of their financial years.

More generally, on the trading front a number of other features are helping the brokers. Last year most brokers reported that they were suffering from delays in cash transactions between various links in the international insurance and reinsurance networks. Some brokers even had to write off in their profit and loss accounts amounts they had failed to collect from their producers.

This year the brokers appear to have largely eliminated the problem with better cash management. True, they may be holding on to the money for longer periods of time than in the past but they seem to have overcome the adverse effects of any delay in their own accounts.

Those companies which have run up expenses to produce new business and establish contact with new markets are finding that the extra expenditure may show eventual rewards, as the growth in the largest insurance market in the world, the U.S., continues to slow. Already some companies are showing benefits as a result of developing new areas of activity as well as new geographical areas.

UK brokers are also becoming adept at developing their larger accounts to generate even more revenues in commissions and fees.

Moreover, certain classes of business are showing signs of hardness in their rating structure. Marine insurers and aviation insurers are making vigorous attempts to increase rates following the poor experience of the past few years.

Even if there is only some recovery in rates, inflation of insured values will provide some underpinning for premiums and with them brokerage commissions.

Uncertainty still remains about which way the transatlantic realignments between UK and U.S. brokers will develop, and with them the placing of large business volumes, after the collapse of merger talks between Alexander and Alexander and Sedgwick. Even so the underlying trading trends for the brokers are more encouraging than they have been for some time.

## APPOINTMENTS

### Senior post at Yorkshire TV

Mr G. J. A. Hardy has become commercial director of YORKSHIRE TELEVISION with responsibility for the financial management of the company. He has also become a member of the board. Mr Hardy was commercial director of Alfred Dunhill in London, and he was previously with ITC Europe in Brussels and Litton Industries Inc. in Zurich and Berlin.

Mr A. C. B. Chancellor has been appointed as director of TRING HALL SECURITIES.

Mr John G. Williams, a director of UNIVERSAL McCANN and the agency's creative director, has been appointed deputy managing director with specific responsibilities for financial and corporate advertising. Mr Jon Wilson has joined Universal McCann from D'Arcy-MacManus and Masius and has been appointed creative director.

Mr David J. Brinknell has been appointed company secretary of PILKINGTON BROTHERS. He succeeds Mr J. Benson Tyler who has retired.

GOODMAN BROTHERS AND STOCKMAN states that Mr R. M. Field has retired as chairman and Mr T. E. Grimes has been appointed in his place.

Mr C. C. W. Box-Grainger has been appointed to the board of TELEPHONE RENTALS. He has been marketing executive director since 1979.

Mr Ken O'Shea has been appointed senior local director of BARCLAYS BANK'S London southern district. Mr Fred Bartlam has been appointed an

executive director of Barclays Insurance Services Company.

Mr C. J. P. J. Hollands and Mr W. P. McKenna have been appointed assistant directors of E. HEATH AND CO. (AVIATION).

Mr Abel Herrero-Ducoux has been appointed senior syndication officer at BANKERS TRUST INTERNATIONAL (BTI), the London-based investment banking subsidiary of Bankers Trust Company of New York.

Mr Herrero-Ducoux, a vice-president of Bankers Trust Company and assistant director of BTI, joins after two years in

Rome, where he was managing director of Bankers Trust Finanziaria SpA, a wholly-owned finance company, and sole director of Bankers Trust Italia SRL, the Rome representative office of Bankers Trust Company.

Mr Alastair R. Biggart, who is to be appointed managing director of Robert L. Priestley, has resigned from the board of EDMUND NUTTALL. Mr Michael J. Banerji and Mr Peter Naylor are appointed directors of Edmund Nuttall.

RIPPIN GROUP has appointed Mr Allan McCulloch technical director.

### Public Works Loan Board rates

Years	Quota loans repaid at			Non-quota loans A* repaid at		
	by EIP†	At maturity	Effective September 5	by EIP†	At maturity	Effective September 5
Up to 5	14½	14½	15½	15½	15½	15½
Over 5, up to 10	15½	15½	16½	16½	16½	16½
Over 10, up to 15	16½	16½	17½	17½	17½	17½
Over 15, up to 20	17½	17½	18½	18½	18½	18½
Over 20	18½	18½	19½	19½	19½	19½

\* Non-quota loans B are 1 per cent higher in each case than non-quota loans A. † Equal instalments of principal. ‡ Repayment by half-yearly annuity (fixed equal half-yearly payments to include principal and interest). § With half-yearly payments of interest only.

### LOCAL AUTHORITY BOND TABLE

Authority (telephone number in parentheses)	Annual Interest		Life sum bond
	gross pay- interest	net pay- interest	
Knowsley (051-648 6555)	13½	1-year	1,000 1-3

## Financial Times Conferences

### WORLD BANKING

London—December 14 and 15, 1981

This conference, like its predecessors in this well established World Banking series, will focus attention on major issues of great current interest and concern to the world's major banks and financial institutions, governments, international agencies and corporate treasurers within industry.

The outlook for the Western economies in the light of American policy, notably on interest rates and the prospects for the U.S. itself, will be discussed in a section of the conference featuring papers by M. Raymond Barre, lately Prime Minister of France; the Hon. Myer Rashish, Under-Secretary of State for Economic Affairs, U.S. Department of State; and Dr. Henry Kaufman, General Partner, Salomon Brothers, New York.

Dr. Walter Seipp, Chairman of the Board of Managing Directors, Commerzbank AG, and Mr. Harry Taylor, Vice-Chairman, Manufacturers Hanover Corporation, will head the discussion on the conduct of international banking business in the difficult climate prevailing today.

All inquiries should be addressed to:  
Financial Times Limited  
Conference Organisation  
Minster House, Arthur Street  
London EC4R 9AX

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Cables: FINCONF LONDON

## INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

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International Year of Disabled People

### THE TRING HALL USM INDEX

124.7 (+0.6)

at close of business 11/9/81  
BASE DATE 15/11/80 100  
Tel: 01-243 5675

### CORAL INDEX

Close 551-556 (+6)

### FINANCE FOR INDUSTRY TERM DEPOSITS.

Deposits of £1,000-£50,000 accepted for fixed terms of 3-10 years. Interest paid gross, half-yearly. Rates for deposits received not later than 2/10/81.

Terms (years)	3	4	5	6	7	8	9	10
INTEREST %	13½	13½	13½	13½	13½	14	14	14½

Deposits to and further information from The Chief Cashier, Finance for Industry Limited, 91 Waterloo Rd., London SE1 8XP (01-928 7822, Ex. 367). Cheques payable to "Bank of England, a/c FFI" FFI is the holding company for ICFC and FCI.

FFI

New Issue

These Bonds having been sold, this announcement appears as a matter of record only.

10th September, 1981



U.S.\$20,000,000

AIDA ENGINEERING, LTD.

(Aida Engineering Kobushiki Kaisha)

5½ per cent. Convertible Bonds due 1996

ISSUE PRICE 100 PER CENT.

Yamaichi International (Europe) Limited

Chemical Bank International Limited Credit Suisse First Boston Limited  
Dresdner Bank Aktiengesellschaft IBJ International Limited  
Kuwait International Investment Co. s.a.k. The Nikko Securities Co., (Europe) Ltd.  
Société Générale Swiss Bank Corporation International Limited

Nippon Kangyo Kakumaru (Europe) Limited Algemene Bank Nederland N.V. Amro International Limited  
Bank of Tokyo International Limited Banque de l'Indochine et de Suez Banque Nationale de Paris  
Banque de Paris et des Pays-Bas Baring Brothers & Co., Limited Caisse des Dépôts et Consignations  
Dai-ichi Kangyo International Limited Daiwa Europe Limited Robert Fleming & Co. Limited  
Fuji International Finance Limited Girozentrale und Bank der Österreichischen Sparkassen Aktiengesellschaft  
Goldman Sachs International Corp. Kleinwort, Benson Limited Kredietbank S.A. Luxembourg  
Kuwait Foreign Trading Contracting & Investment Co. (S.A.K.) Merrill Lynch International & Co.  
Mitsubishi Bank (Europe) S.A. Samuel Montagu & Co. Limited Morgan Grenfell & Co. Limited  
New Japan Guaranty Ltd. National Bank of Abu Dhabi The National Commercial Bank (Saudi Arabia)  
New Morgan Securities Europe Limited Nomura International Limited Salomon Brothers International  
Sanyo Securities Co., Ltd. J. Henry Schroder Wagg & Co. Limited Singapore-Japan Merchant Bank Limited  
Smith Barney, Harris Upham & Co. Incorporated Sumitomo Finance International  
Tokai Bank (Nederland) N.V. Union Bank of Switzerland (Securities) Limited  
Wako International (Europe) Ltd. S.G. Warburg & Co. Ltd.







## 2 OFFSHORE & OVERSEAS FUNDS

[illegible]

1975		4.00	4.00	4.00
Weekly closing bid, Wednesday.				
American Unit Tr. Mgmts. Ltd. (a)(b)				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Washington Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Microcap Unit Fund Managers				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
F. F. Winchester Fund Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Equity & Law Inv. Tr. M. (a) (b) (c)				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity International Management Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0	100.0
Net Worth	100.0	100.0	100.0	100.0
Fidelity Pacific Unit Trust Mgmt. Ltd.				
Accum.	100.0	100.0	100.0	100.0
Income	100.0	100.0	100.0	100.0
Dividend	100.0	100.0	100.0	100.0
Capital	100.0	100.0	100.0	100.0
Assets	100.0	100.0	100.0	100.0
Liabilities	100.0	100.0	100.0	100.0
Equity	100.0	100.0	100.0</	

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COMMONWEALTH AND AFRICAN LOANS						
10	Aug. 50-yr	81-82	95%	28.8	5.72	13.65
10	Dec. 1981-83		86%	30.4	7.67	14.11
1	Jan. 7 1/2-yr	1988-92	64%	12	12.26	15.41
150	Dec. 7 1/2-yr	83-86	76	15.9	10.18	14.22
	S. Rhod. 20-yr Non-Ass.		139	376		
	Dec. 50-85 Ass'd		60	20.8		17.88
	Dec. 4 1/2-yr	82-84	80	7.1	11.65	18.44
	Zimbabwe Am (\$100m)		388			22.33

## CHEMICALS, PLASTICS—Contd.

My Au. N.	Int. Nat. Gas \$1.	6400	30.70	\$1.10	7.6
Mr. Jr. S. D.	Massey Ferg. J.	1200	11.77	---	---
	Place Gas \$1.	720	---	---	---
Mr. Dec	Sta. Algon	160	4.5	\$1.50	4.1
Mr. J. S. D.	Proyol Bk. Can. \$1.	120	27.7	\$1.80	6.7
	Seagrass Can. C52	284	18.6	US\$1.60	2.7
F. My Au. N.	Tr. Dom. Bk. \$1.	123	23.9	\$1.80	6.6
J. Ap. J. D.	Trans. Can. Pipe	9550	26.6	\$2.76	5.4

Apr.	Oct.	Galliford Br. A	91	15	4.62	3.3	7.5	5.6
May	Nov.	Edits Dr. B. 20	18	30.3	1.25	2.9	9.7	(4.0)
June	Dec.	Gloss (L.L.) 10	24	16	12.54	1.8	4.5	17.7
July	Jan.	Oct. Glossing	64	15.6	6.2	11	10.3	11.1
Aug.	Feb.	N.A.T. Gr. 12	71	10.8	2.75	1.7	5.5	8.6
Sept.	Mar.	Westall Scar	14	27.5	1.7	16	16.6	8.8
Oct.	Apr.	Westall Scar (P. 10)	140	16	8.0	0.8	1.5	1.5
Nov.	May	Westall Scar	185	12.8	1.9	1.9	5.4	(0.8)
Dec.	June	Hayward Wnd.	33	14.7	—	—	—	—
Jan.	July	Higgs & Hill	132	10.4	4.8	2.7	5.2	(0.1)
Feb.	Aug.	Horsington	17	16	2.9	2.3	4.7	(2.1)

July	Jan.	SICC 50p	265	19	20	5.7	18.7
Aug.	Feb.	BSR 10p	75	378	20	5.7	18.7
Sept.	Mar.	Hydrotel Elec. 10p	28	3.65	2.8	4.1	19.6
Oct.	Apr.	Berard	118	15	3.4	2.1	16.2
Nov.	May	Procter & Gamble 10p.	186	24.3	3.4	2.1	16.2
Dec.	June	Bulfinch 'A' 50	23	1.4	1.4	8.4	19.8
Jan.	July	Cambridge Elec.	90	3.7	2.2	5.6	9.5
Feb.	Aug.	Chloride Grp.	24	6.90	2.1	2.1	2.1
Mar.	Sept.	Concord Res. 10p	40	28.5	2.8	3.4	3.4
Apr.	Oct.	Cray & Co. 10p	28	18.6	2.25	3.4	3.4

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Month	Company	Price	% Chg.	Yr. High	Yr. Low	Volume
Sept.	Alfa A Colloid 10p	136 1/4	25.8	2.73	1.9	2.9
Nov.	Anchor Chem. ..	76	15 1/2	2.38	0.5	4.5
Sept.	Arrow Chemicals	46	16.6	—	—	—
July	BASF AG DM50	£32 1/2	29 1/2	Q14%	1 1/4	4 1/2

Aug.	Wentworth Elm, 30	25	18.5	2.3	1.5	7.3	12.2
Dec.	Gcl. Wata. Select 20p	45	18.5	2.3	1.5	7.3	12.2
Dec.	Wentworth E1. 5p	120	15.9	1.51	1.0	1.0	1.0
Oct.	Warwick P1g 10p.	210ms	28.8	4.13	2.8	2.8	2.8
April	Wentworth (H.)	154	24.7	4.0	1.4	5.6	(16.1)

November	Home Farm 10p	71.5	30.3	92.9	2.5	4.3
July	Dec. (Kwik Save 10p)	228	1.6	74.0	2.4	2.5

Pro.	Sept.	Mothers' Inst.	32	12.78			
Dec.	July	Walt Lloyd Int. 10p	66	18.5	3.77	1.5	5.91
Apr	Sept.	Hoover 'A'	187	2.3	36.0	-	8



## OIL AND GAS—Continued

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Dec. Gold Fields S.A. 25c  
Oct. Jo'burg Cons. R2  
F.I. 145-148-149 25c

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**"Recent Issues" and "Rights" Page 18**

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BELL & WEBSTER LTD.Telephone: (0604) 65211  
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## N. Zealand arranging £100m acceptance facility

By Peter Montagnon, Euromarkets Correspondent

NEW ZEALAND is arranging a £100m sterling bankers' acceptance facility, the first time a foreign government has tapped this growing market in its own name.

The issue led by S. G. Warburg follows hard on the heels of a successful \$365m acceptance facility for Mexico's state oil concern Pemex. It brings the total of such credits arranged for foreign borrowers to almost £750m, City bankers estimate.

The popularity of the sterling bankers' acceptance market as a source of finance for foreigners has been increasing since exchange controls were abolished in 1979. Last month's decision by the Bank of England to double the number of banks whose bills are eligible for rediscount has given it a further boost.

Under a bankers' acceptance facility the borrower can draw bills of exchange on the original lending bank up to an agreed amount. To raise the necessary cash, the lending bank can resell the bills which it has "accepted" in this way.

The New Zealand issue, however, embodies some novel features, principally because it is the first such credit to be arranged by a foreign government.

The Bank of England has told City banks that the bills will only be eligible for discount if they finance a genuine underlying trade transaction.

As foreign governments do not normally trade in their own name, the Bank has indicated willingness to consider exceptions to this rule if the borrower is a sovereign entity and the transaction temporary in nature.

New Zealand is understood to be availing itself of this exception. The facility is for one year only and New Zealand is expected to refinance it through a bond issue in the sterling market when conditions are appropriate.

Other sterling acceptance facilities have been longer-term. They have also carried higher commissions—at 1 per cent—than the New Zealand facility which bears a commission of only ½ per cent in deference to the country's high international credit rating and the short-term nature of the operation.

Continued from Page 1

## Oil

Saudi Arabia might also restore its high production of 10.3m b/d in order to apply a brake on price rises.

Following the recent Saudi decision to reduce output by 1m b/d—to around 9.3m b/d—Opec production of crude oil and natural gas liquids has fallen to about 20.5m—21m b/d—the lowest level, on an annual basis, since 1968.

"If Opec were producing at close to capacity, the position would be potentially worrisome," said Dr Herman Franssen, the IEA's chief economist. He added that if companies continued to run down stocks faster than normal there could be a pressure on prices during the mid-winter.

Dr Franssen said that refiners might face a winter spurt of ordering from industrial, commercial and domestic users of oil products. Stocks in the consumer sectors had been depleted partly because of the economic recession but also because the general public had been lulled by the apparent oil glut and falling prices.

Reduced summer demand for oil products is one of the prime reasons why companies have now started to draw on their own stored supplies. Senior company officials said at the weekend that the industry could not afford to keep abnormally large stocks, particularly in view of high interest rates and the losses now being made by many refiners.

One leading oil company said that storage charges and interest rates put the annual cost of stocking oil at about \$8 to \$10 a barrel.

Between mid-1980 and mid-1981 the industry had been holding at least 500m barrels above the normal level established after the 1973 crisis, the company added. Refiners could not afford to spend \$4bn to \$5bn a year to store 2.5bn to 2.8bn on storing this excess crude.

Indonesia has trimmed the prices of six grades of oil by 20 to 50 cents a barrel because of falling demand. But the price of Minas oil—the main reference grade in Indonesia—is being kept at \$35 a barrel.

The price changes, back-dated to September 10, affect the following grades: Atjak, Bekapai and Badak, \$37.55 a barrel (formerly \$37.75); Cinta, \$34.00 (formerly \$34.50); Arun condensate, \$37.50; (formerly \$37.75); and Katapa, \$38.00 (formerly \$38.25).

## Co-op Bank and unions in joint banking venture

BY CHRISTIAN TYLER, LABOUR EDITOR

PLANS for a banking institution jointly run by the Co-op Bank and major trade unions are well advanced. A feasibility study is nearly complete and the institution, backed with about £5m of funds to begin with, could be launched in the next six months.

The idea is to set up a licensed deposit taker which would make investments and provide trade unions with financial services including pension fund management. A fully-fledged bank might be created eventually.

On the union side, the main impetus has come from Mr David Bassett, general secretary of the General and Municipal Workers Union, with support from leaders of the white-collar union ASTMS, the Shopworkers' Union, the Transport Workers and the Engineering Workers. Unions like the National and Local Government Officers' Association and the Civil and

Public Services Association may also be drawn in.

The idea is to harness systematically the financial resources of the labour movement, as is done in West Germany by the Bank für Gemeinwirtschaft and in Israel by Bank Hapoalim.

Although the launch has been delayed by the trade unions' other preoccupations, it is now said by both sides to be "very likely".

It is intended that half of the starting capital should be raised by each side. The Co-op Bank has agreed to put up its share; union leaders are discussing their contribution among themselves. A joint board of 10-15 members is being suggested.

Although the Co-op Bank already acts for most trade unions and one in six of local authorities, its senior managers feel that a much more powerful financial entity could be created. For their part, union leaders like Mr Bassett argue that trade

union funds should play a bigger part in the economy.

At least in the early stages the institution would adopt what were described yesterday as "relatively conservative criteria" in order to build up confidence. It would not attempt to extend soft loans to British industry: the unions, through the TUC, are arguing for a new State institution for that purpose.

Protagonists of the plan believe it has been helped by the success of the only other joint trade union financial venture of any consequence. That is the consortium of trade unions affiliated to the Labour Party which bought and rebuilt the party's new headquarters in Walworth Road, South London.

Mr Lewis Lee, chief general manager of the Co-op Bank, discussed the plans with union leaders in Blackpool, when the annual Trades Union Congress was held last week.

## Haig hints at widening policy rift between U.S. and Europe

BY LESLIE COLTIT IN BERLIN

MR ALEXANDER HAIG, the U.S. Secretary of State, hinted yesterday at official concern in Washington over widening policy differences between the U.S. and Western Europe.

In what U.S. officials in West Berlin called a major policy speech, Mr Haig said the "tone and substance" of the debates between Americans and Europeans had recently "begun to take a disturbing turn".

As Mr Haig spoke some 40,000 West Berliners demonstrated against his presence in West Berlin and President Reagan's decision to produce the controversial neutron weapon for deployment in Europe. The peaceful demonstration was organised by the Young Socialist wing of the Social Democrat Party (SPD) as well as by young Liberals of Chancellor Helmut Schmidt's coalition partner the Free Democrats and by the Communist Party of West Berlin.

They were later joined by some 300 masked and hooded youths who clashed with the police while attempting to break through cordons around West Berlin's City Hall where Mr Haig was signing West Berlin's Golden Book.

Chancellor Schmidt lauded the Secretary of State's visit to West Berlin as a reaffirmation of the American commitment to defend the city. The SPD leadership criticised the demon-

stration as being "politically harmful" to West Berlin, but noted there was "strong concern" among West Germans over the neutron bomb.

Mr Haig was accompanied by the West German Foreign Minister, Herr Hans-Dietrich Genscher, but the Opposition leader, Herr Helmut Kohl of the Christian Democrats said Herr Schmidt should have come along as well.

At one point in his speech, Mr Haig asked where were the demonstrations in the West against Vietnam's seizure of Kampuchea and against Soviet aggression in Afghanistan. Where, he called out, were the protests against the "enormous Soviet military build-up".

Addressing European critics of U.S. nuclear policy, Mr Haig retorted: "It is Soviet tanks not Nato defences against those tanks that threatened the peace in Europe."

The U.S. Secretary of State alluded to European pressure, especially from West Germany, for Washington to start negotiations with Moscow to reduce the level of medium-range nuclear missiles in Europe. He said hopes for such reductions "will be doomed" if people succumbed to a double standard "falsely blaming the troubled state of the world not on aggression but on the defence against it".

In reply to a later question,

however, Mr Haig said he would talk with Herr Schmidt about the nuclear missile discussions the U.S. would have with the Soviet Union "before the end of this year". He added that American negotiators would have to be "constrained by European considerations".

In a reference to the demonstration near the hotel where he spoke, Mr Haig said that it had not escaped his notice that West Berliners were in the streets "who think less well of me and my country than I would wish".

In one sense, he said, he regretted the demonstration. But he noted that in a far more important sense "we should all draw deep satisfaction" from what the protests "tell us about the strength of democracy" in West Berlin.

On behalf of the United States and his countrymen serving with the U.S. forces in Europe Mr Haig noted "even when we disagree with what you say we are prepared to defend to the death your right to do so".

At one point Mr Haig grew visibly irritated when a West German reporter asked whether it was not understandable that Germans were concerned about the neutron bomb after the second world war and the possibility of West Germans having to fight a war against East Germans.

## Polish clash with union averted by compromise

By Christopher Robinson in Warsaw

POLAND'S Solidarity trade union and the Government appear to be backing away from a clash over workers' rights.

Union leaders offered a peace formula at the weekend when they were faced with a flat rejection by Parliament of their demand for a national referendum on Solidarity's right to choose factory managers.

While still insisting that top management appointments should be made by workers' councils, the union offered the Government the right to veto its selections.

A similar proposal from the Government, which offered the union the right of veto over Communist Party management choices, was rejected by the union.

Fears of a confrontation over the issue developed last week when delegates at Solidarity's first national congress insisted on a referendum and threatened to disobey any laws which did not match their demands.

Mr Lech Walesa, the union leader, also appeared to be trying to soften the tone of the writer of demands made at the congress. "We do not want to take over power," he said at a meeting at Gniezno, in central Poland, "but we must ensure that the authorities serve us."

The spirit of bravado which dominated the congress has still not completely evaporated. According to official news agency reports, Mr Walesa still demands television time to air the union's views. "If it was not granted, he said, 'we shall build our own transmitter. We have our own equipment and cameras'."

Mr Mieczyslaw Rakowski, Deputy Prime Minister, has warned in an interview that the friction between the union and the Polish Government is now greater than ever. Reuter reports from Bonn.

Katolinski is saying that "blood could flow" in an interview to be published today in Der Spiegel.

The Government, however, was well aware that there was no turning back in Poland. Reform meant that many aspects of life previously regarded as untouchable could be changed, he said.

Visits by tourists to Poland have dropped drastically this year as a result of the unsettled political situation and the near total ban on travel to Poland from elsewhere in the Soviet bloc. Up to the end of July visits from the Comecon countries were down by 70 per cent compared to last year and from the West down by 45 per cent.

Organised tours to the rest of Eastern Europe by Poles are down by 82 per cent this year. However, the number of Poles travelling abroad individually, presumably to the West, has risen, the Polish tourist committee has reported.

## Weather

UK TODAY

STORMY, spreading from West after dry bright start in East. Drier and brighter later in S. West.

London, S.E., N.E. England, Midlands, Wales, Channel, Isle of Man, N. Ireland, Lake District, S.W. Scotland. Rain, heavy at times. Max. 18C. (64F.).

S. Central, N.W. Scotland. Bright intervals at first, rain later spreading from S. West.

N.E. Scotland, Orkney, Shetland. Cloudy, occasional rain at first, bright intervals developing. Max. 14C. (57F.).

Outlook: Unsettled with showers and sunny intervals. Normal temperatures.

WORLDWIDE					
	Y'day	Midday	Y'day		
Ajaccio	26	77	Lozano	17	63
Amman	26	61	London	18	64
Athens	26	62	L. Angli	18	64
Bahia	26	71	Madrid	26	79
Beirut	26	82	Majorca	26	84
Belfast	26	59	Málaga	26	83
Bombay	26	73	Moscow	26	78
Buenos Aires	26	70	Munich	18	68
Calcutta	26	72	Nairobi	18	68
Cairo	26	72	Norfolk	18	68
Cardiff	26	72	Osaka	18	68
Cebu	26	72	Paris	18	68
Colon	26	72	Perth	18	68
Copenhagen	26	72	Prague	18	68
Dakar	26	72	Rangoon	18	68
Damascus	26	72	Reykjavik	18	68
Dublin	26	72	Rome	18	68
Dhaka	26	72	St. Petersburg	18	68
Edinburgh	26	72	Stockholm	18	68
Geneva	26	72	Sydney	21	70
Hankow	26	72	Taipei	21	70
Hong Kong	26	72	Tientsin	21	70
Imbabura	26	72	Urumchi	21	70
Islamabad	26	72	Yokohama	21	70
Jakarta	26	72	Zurich	18	68
Johannesburg	26	72			
Lima	26	72			

—Cloudy, —Foggy, —Rain.  
\* Noon GMT temperatures.

THE LEX COLUMN

## Industry's route back to profits

Here comes the industrial profits recovery. Glimmerings of it are visible in the current batch of interim results, and a much stronger effect will come through in the second half when the comparison will be with almost the very bottom of the profits trough towards the end of 1980.

But with the economy still deep in recession, the revival in manufacturing profitability could have something in the nature of a shifting of the agony. While the traded goods sector benefits from drastic cost shedding, the end of destocking and what is now a sharp depreciation of sterling, the domestic-oriented sectors of the economy are facing the threat of a fall in the spending power of the personal sector.

### Past the nadir

The actual nadir for company profits probably came in about the fourth quarter of 1980, though the exact point depends on the timing of all the exceptional and extraordinary charges relating to closures and redundancies. On a reported basis, pre-tax profits continued to be lower in the early months of 1981 than in the same period of 1980, but the latest calculations of brokers Phillips and Drew suggest that the second quarter, for the first time in five quarters, is likely to have shown a year-on-year gain.

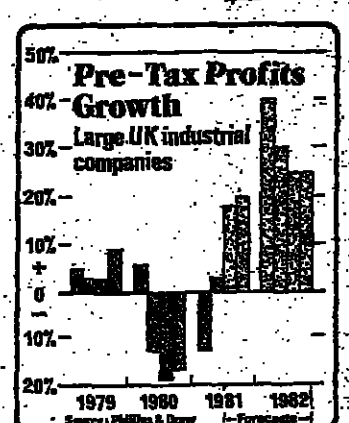
With around 30 per cent of companies having reported profits growth for the quarter, the worst performance in all the results are in the bag it is reckoned this could shade up to 5 per cent. For perspective, however, profits will still be 8 per cent below those of the same 1979 quarter and money depreciated in value by 26 per cent over those two years.

These profits, incidentally, exclude those of the oil and financial sectors, which are likely to show significantly less buoyant figures than industrials generally.

That much is reflected, particularly, in the share price performance of oils, with the sector index showing the worst performance in the FT-Actuarial list by a wide margin so far in 1981.

Meanwhile industrials could show quite solid recovery of a fifth or so compared with the profits earned in the second half of 1980, and the really impressive burst of growth could come through in the early part of next year.

Such hopes are, of course, quite widespread in the stock market and they have served to



underpin the persistent strength of UK equities in the face of recent weakness in overseas stock markets, notably Wall Street. The argument is that British industry has shrunk its way back into profitability, albeit at great cost in terms of lost jobs, abandoned markets, and written-off capital investment.

In most respects the outlook is now significantly brighter. For instance, the long process of destocking—which has gone on since the end of 1979—is probably more or less ended. In manufacturing, the second quarter stock rundown of £230m was the lowest for four quarters. The impression is that demand in manufacturing is now a little stronger, though still far from buoyant.

Probably the most important positive factor for manufacturing industry has been the weakness of sterling. In the early part of the year this was mainly a matter of weakness against the dollar, which was not all that helpful for companies struggling against German and Japanese competition. Nevertheless, the depreciation of 24 per cent shown by sterling against the dollar in the first six months of the year has had the useful effect of swelling the profits of U.S. subsidiaries on translation.

### Sliding pound

Now the sterling/DM exchange rate is also sliding rapidly—by a matter of 6 per cent in just the first half of this month. Not only will this help to restore competitiveness in export markets; the downward price pressure from imports in domestic markets is also evaporating fast.

Wholesale prices of manufactured goods are therefore likely to begin to rise faster than in the past year. Imported raw material and component costs will also rise, of course, but employee earnings in manufac-

turing are likely to grow only very slowly. Industry has the chance to win back a slice of the income it has lost to the personal sector.

The other side of this coin, however, is that the real incomes of the declining number of people in painful employment are likely to be falling. Already in the year to last June, real incomes (allowing for tax changes) were squeezed on average by about 3 per cent. The precise economic effect of this depends upon the extent to which the savings ratio falls. But the outlook for consumer-oriented sectors like stores or breweries cannot be very bright.

### Current costs

This should only partially dent the overall strength of profits, however. And in current cost terms the revival could look rather more impressive than on the traditional historical cost basis—partly because the recovery will be from a lower level. According to an evaluation by Phillips and Drew of the 1980 current cost figures of the 140 leading listed companies, the average current cost cover for the dividend was less than one; some 40 per cent of industrial companies declared uncovered dividends for 1980.

The hope now is that current cost earnings will recover by 10-15 per cent in 1981 and by a third or more in 1982. If so, a reasonable level of average cover would be restored for dividends, and there would even be modest scope for growth in payout levels.

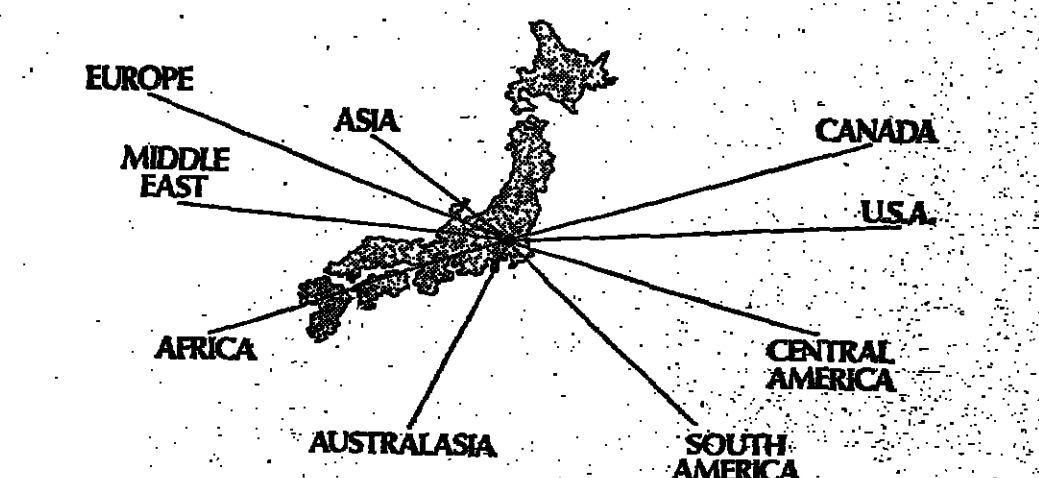
Much of the forthcoming recovery in industrial profits has been discounted in the stock market, but there should still be a little more to go for so long as a reasonably fair view of the situation is maintained.

One is the risk that sterling interest rates will have to go up to prevent the weakness of sterling from getting out of control. The cut in interest rates this year has itself been a factor in the profits revival; industrial borrowing will start to rise quite quickly if the revival in activity attains any strength.

The second question mark is over the world economy. Many countries have suffered the impact of unprecedentedly high interest rates, as a direct consequence of U.S. monetary and fiscal policies. British companies could yet find that their improved competitiveness will be dissipated on unrecaptive markets.

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